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When Time Stood Still

DO YOU old-timers remember the pantomime act wherein a trick house was erected on the stage and two fellows, dressed exactly alike, dove in and out of concealed openings, bobbed outta the chimney, and the like? The fascination of this act was the split-second timing of one man diving in a window at one end and apparently the same fellow emerging twenty feet away, in the wink of an eye. The timing was uncanny, but no more so than in the little anecdote that follows.

After the Spanish-American War I went braking on the Centerville branch of the Nashville, Chattanooga & St. Louis. It was a pretty busy branch—six crews doubled the road daily—and, brother, that was the wildest and weirdest railroading I ever encountered in a long and misspent life. If you could last there and keep alive, you could sure as hell railroad anywhere. Any part of the sixty-four miles of that branch that wasn't going up was going down, while curving and bending sidewise at the same time. She was a darb.

"SAY, BROTHER, has we passed de Salt Flats yet?"

About halfway down this pike in Tennessee is a station named Graham. Going south you descend Graham hill, pass the depot and water tank, out on to a trestle fifty feet high that spans a wide shallow creek. At the other end of the trestle you start up Nunnelly hill, which is a plenty stiff grade. On the bank of the creek and almost under the edge of the trestle stood a small corrugated-iron pumphouse. This structure was about twelve feet square, with a window in each of three sides, a door in the other. The pumping apparatus consisted of an upright boiler and small pump. So much for locale.

It was the custom to hold the train to a slow speed down Graham hill, almost to the station. Then, if he had no cause to stop, right at the end of the trestle, the hogger would widen on 'er to make a run for Nunnelly. On this day I was riding the pilot, coming down hill. As per usual, right at the trestle, the hogger twisted 'er tail. *Bang!* Outta the front end of the cylinder went the head, followed by the piston which hit the pilot beam with a jolt that startled the daylights out of me. The center line of the cylinder was slightly lower than the pilot beam; so when the piston went away from there, it was with a back-flip that caused it to slowly spin down to the little pumphouse.

I watched with fascination, and it seemed as though time stood still while the piston fell, right above the roof. Then —*zang, zing*—out of a window and into the knee-deep water of the creek leaped the figure of the pumpman; and was that guy striving earnestly to put distance between himself and the pump? He was. A cloud of steam and smoke erupted from the roof, a cloud out of all proportion to its cause, but it blotted the scene; and when it blew away the pumpman had disappeared in the timber across the creek. But I'll make a long bet that no acrobat's timing in pantomime was closer than between the piston's entrance and the pumpman's exit.—WILLIAM F. KNAPKE.

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Brigham Young's Road

Union Pacific Bypassed Salt Lake City, so the Mormons Built a Line of Their Own

CREAKING wagons came to a halt and the dust they had raised settled quickly on the plain. Oxen nibbled hungrily at tufts of grass. A stout fellow rode his horse away from the lead wagon. His black beard was cropped close and a broad-brimmed black hat shaded his aggressive-looking face. Obviously this man was in charge of the trek.

Followed by five companions, all mounted, the leader silently led his group to the top of a low bluff nearby. Below them lay the white-can-

By DAVID H. MANN

vassed tops of seventy wagons, strung out in a long and well-guarded line. The steeds, panting from exertion, stopped and the leader arose in his stirrups, pointing to the hills.

"Brethren," he said impressively, "our path lies straight ahead to the West. Mark my words, however: the time will come when every one of you will see a railroad built over this very trail we now follow."

"If you ask me," ventured one of the other riders, "it's going to be a long time before a railroad reaches these parts."

"I'm not asking you," snapped the first speaker. "I'm telling you that the time will come when the rails will follow us West—and it won't be many years hence."

"Is that a prophecy?"

"That's a prediction," came the reply.

"What's the difference?"

The leader fixed his piercing dark eyes on the man who had put the question.

"A prophecy, my friend, is inspired by God; but in this case ordinary sense tells me that the rails will follow us West."

This incident occurred nearly a century ago. The exact date—June tenth, 1847—was forty-six years and nine days after the bearded chief, Brigham Young, had been born at Whitingham, a Vermont hamlet (now on the Hoosac Tunnel & Wilmington Railroad).

Brigham Young was President of

OX-DRAWN covered wagons were familiar sights in Salt Lake City for more than twenty-two years, being the only means of communication Mormons had with the outside world

the Church of Jesus Christ of Latter Day Saints. He was also a shrewd business man and the undisputed head of this sect whose members were called Mormons because of their *Book of Mormon*. In 1847 he guided the Saints in the greatest organized pioneer movement known to American history. Men, women and children journeyed with the wagon train, their migration blazing a trail of roughly fifteen hundred miles to the broad fertile valley of Great Salt Lake—a trail that would be followed in succeeding years by many thousands of other Mormons. These people had been persecuted back East. They were seeking religious and economic freedom in the vast isolation of what was then Mexican territory.

A month after the incident just related, while the same caravan was still plodding westward, they struggled up a steep canyon high in the Rockies. Confronted by huge boulders, the wagon wheels ceased rolling. The leader, pale from a siege of mountain fever, climbed shakily out and tottered a few steps to a vantage point to look things over. One of his followers inquired:

"What do you think, Brother Young? Can we get around these rocks?"

The sick man pondered a moment.

"Oh, we'll get around them; don't worry about that," he replied. "But the railroad, when it comes—well, it will take a lot of work to bring a rail line over here."

"So you still believe the rails will follow us West?" the questioner went on.

Mr. Young nodded solemnly.

"Brethren, again I refer you to the writings of Isaiah, who in the Scriptures hath said, 'A great highway

shall be cast up,' and on another occasion: 'They shall come with speed swiftly.' Isaiah's words will be fulfilled in your generation. The time will come when a great highway of iron rails shall follow us West and thousands of our faith shall come with great speed, drawn by the iron horse."

His eyes, burning brightly from fever, lent even stronger emphasis to the forecast.

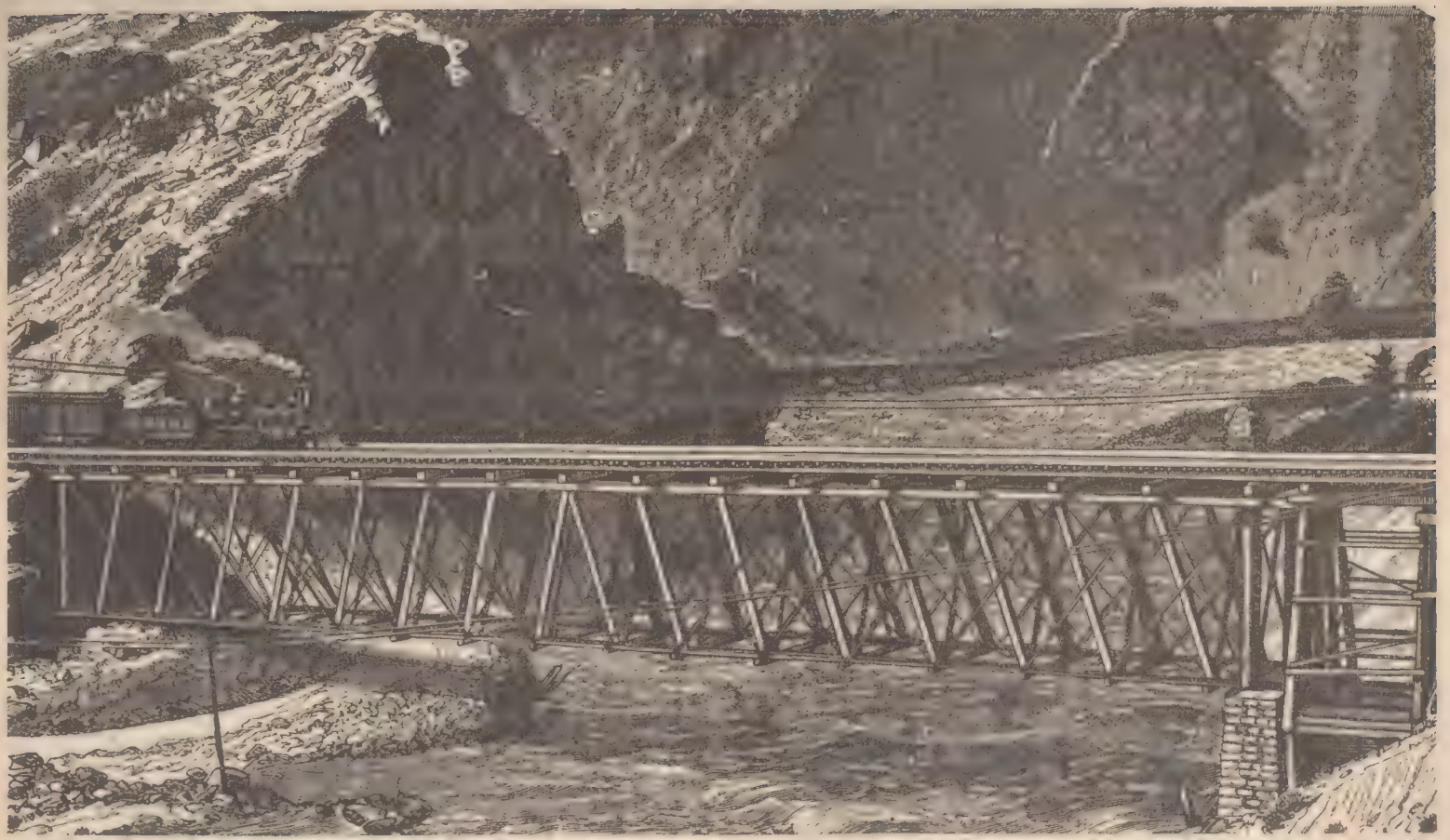
A few days later, on July 24th, the wagon train had toiled across the Rockies into the rim of Salt Lake valley. The leader, not yet recovered from illness, raised himself with one elbow in his wagon to gaze out on miles of gently rolling country. A pleasing sight met his vision. Jackrabbits and chipmunks frisked through the tall grass. Birds flew overhead. Vividly-colored prairie flowers nodded in a mild summer breeze. The whole scene was golden with sunlight. A smile of triumph swept over Brigham Young's face and he uttered those historic words:

"This is the place."

FIVE YEARS PASSED. The infant Mormon empire had spread up and down the valley. The new city beside the lake was inhabited by numerous pioneers who had resolutely and wearily made their way westward across what was then called "the Great American Desert," either walking and pushing hand-carts or riding horseback or in the slow, ox-drawn, covered wagons. Many were still arriving, more were on the way.

Twenty thousand Latter Day Saints left their bones along the trail, lacking the physical stamina to reach the Promised Land. This count has been authenticated. Among them was Rebecca Winters, whose grave near Scottsbluff, Nebraska, on the present Burlington Route, is the only burial site of the entire twenty thousand that can be found today. For years Rebecca's resting place was marked by a wagon tire jutting out

EVEN in early days, Ogden had barber poles, one of which appears in this street scene



WEBER CANYON, a stretch of Union Pacific main line in the Wasatch Mountains which was graded by Mormon workers under the direct supervision of Brigham Young, highly scenic. Here's the old wooden truss bridge at Devil's Gate

of the ground. It was regarded by Indians and cowboys with superstitious awe. Railroad surveyors, preparing for a CB&Q extension shortly before the turn of the century, retraced their steps and rerouted the line to avoid disturbing the tomb of this pioneer woman who had died on the Mormon trail. Today the wagon tire is still there; but a gravestone, suitably inscribed, has been added to it, both being enclosed within a substantial fence.

Meanwhile, in 1852, Mr. Young was anxious to bring his followers westward by faster means and thus reduce the appalling casualty list. On March third of that year, through the first Utah Territorial Legislature, he petitioned the United States Congress to aid in every way the promotion of a railroad to the Pacific. And in 1854, two years after active surveying of the proposed rail route had been started, partly through the insistence of Brigham Young, another petition was sent to Washington, this time asking that the line pass through Weber Canyon, into Salt Lake City, and thence around the southern end of the lake to the Pacific Coast.

Of course, the Mormons were not the first to agitate for a transcontinental railroad. The earliest such agitation of which there is any record was the calling of a meeting by John Plumb, a civil engineer, at Dubuque, Iowa, to create public sentiment for the building of a rail line to the West. That was in 1836—when the Mormon sect was only six years old and Brigham Young thirty-five, and neither of them was then interested in railroads.

The trail for overland immigration was laid first by the buffalo, next the Indians and the fur traders, and then the Latter Day Saints. This was the Platte River route. When railroad surveys were started they followed that route. In 1862 Abraham Lincoln, President of the United States, authorized the Union Pacific to begin construction. A year later both the UP and the Central Pacific had commenced to lay rails, expecting to join at some halfway mark not then decided upon. This activity was shelved by the Civil War but resumed shortly afterward.

Thus it came about that the rails promised by Brother Young to his adherents in 1847 were being laid on a route which followed, for hundreds of miles, the very ruts made by wagon trails of the Mormon migration. Part of the line was built from a survey actually ordered and financed by the apostle, who was determined that the locomotive should serve his vast inter-mountain empire.

IT BECAME APPARENT in 1867 that the Union Pacific, pushing westward, would probably meet the Central Pacific, extending eastward, somewhere in Utah. The question of a junction point soon arose and became a paramount problem. Everybody agreed that the line would pass down Weber Canyon and into the Great Salt Lake valley; but whether the rails were to go thirty-seven miles south via Salt Lake City, to skirt the lake, or north around the other end of the vast body of water and thence on westward to the Humboldt Wells, was the livest issue of the day in Utah.

Naturally Mr. Young wanted the line to enter the major city of his domain. He called mass meetings, at which the question was discussed in detail. Addressing one such gathering in Mormon Tabernacle, the

church president told his followers:

"At the present rate of progress of the Union Pacific Railroad, we have good reason to believe that within two years, the solitude of our mountain fastness will be broken by the shrill snort of the iron horse, as he careens through our canyons. These lines are being pushed forward with steady speed, and their progress is being watched with great interest by all citizens. . .

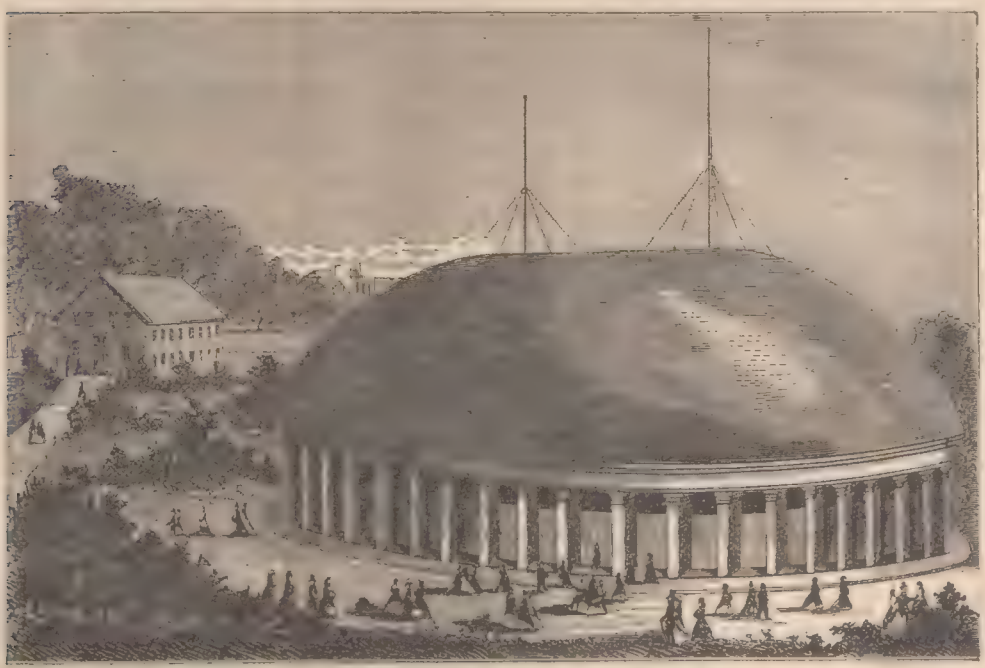
"The advantages which will accrue to our state by the construction of this great national highway, I need not enumerate. They will readily occur to you. Whether the road will be laid on the south side of Salt Lake City, or go around on the north side, has not, so far as I know, been fully determined . . . Yet, if the companies decide to build the road on the north side of the lake, a branch line can, with but little expense and trouble, be constructed between the main line and Salt Lake City . . ."

This attitude was reflected by the other Mormon apostles. George Q. Cannon, editor of the *Deseret News*, official church paper, wrote in 1868:

"I hope to hear the snort of a locomotive in Salt Lake City before another winter has passed."

He pointed out that a pound of butter cost $1.50—there were no "red tokens" in those days—and predicted that the cost of living would drop as soon as a steam engine entered the Mormon capital hauling Eastern merchandise and foodstuffs.

At that time, when it appeared that the toughest part of UP construction would be down Weber Canyon, rail officials approached Brig-



IN THIS DOME-SHAPED EDIFICE, the second of three Mormon Tabernacles built at Salt Lake City on virtually the same site, the Saints agitated for a railroad to serve their community. Many settlers were then living in primitive frame and sod shacks like the one pictured on page 15

ham Young to ask if he would take the contract for grading and bridge abutments. After the proposition had been made, Mr. Young rose to his feet. The majesty of his bearing is reported to have aroused the admiration of the little party of Union Pacific officials anxiously awaiting his answer.

"Point out the path," challenged the Mormon leader, who was a master of oratory, "and we will tear down the rocks, pierce the mountains, fill the valleys and make a pathway for the iron horse."

Jubilant, the delegation left his elaborate offices with the feeling that one of their biggest problems was already in course of being solved.

BUT AS THE CHURCHMEN gathered around their president, men to whom he could let sub-contracts for the canyon job, a feeling of uneasiness filled the Mormon Tabernacle. The leader began to suspect that the Union Pacific might by-pass Salt Lake City after all and, as he put it, "leave us out in the cold." So he called another rally. This was attended by about three thousand people, including representatives of the Federal Government, the territory, the church and the non-Mormon element. Mr. Young himself made the main address.

"If I could direct the route they (the railroad people) should take," he thundered, "I should have it . . . through the lower part of Salt Lake City, and then pass the South end of the lake to Humboldt. Whether it is the province of this community to dictate in this affair will be better understood when the track is laid. We are willing to do our share of the work, provided we get paid for it . . .

"We have undertaken to do a certain section as far as the grading is concerned. Whether we shall have the privilege of hearing the whistle and snorting of the iron horse with every train of cars that passes from the West to the East, I do not know. Still, I would like to hear the whistle and puffing of the iron horse every

EARLY MOTIVE POWER, ROLLING STOCK AND OTHER EQUIPMENT on the Mormon-built Utah Central Railroad were furnished by the Union Pacific management as part payment of money due to Brigham Young and his followers for their arduous work in grading the right-of-way through Weber Canyon. Two Utah Central eight-wheelers are shown in this photo, dated 1869. One of them has a snow-bucking shield fitted over her pilot

evening and through the night, in the morning and through the day . . . whether they meet south of the lake, or in the mountains north of the lake, has yet to be told . . .

"If the company which first arrives should deem it to their advantage to leave us out in the cold, we will not be so far off but we can have a branch line for the advantage of the city."

John Taylor, another Mormon apostle, also addressed the group, saying: "It has been thought and charged by some that we are averse to improvements, and that we dislike the approach of the railroad. Never was a greater mistake . . . Who penetrated these deserts, opened these fields, planted these orchards, made these roads, built these cities and made this desert blossom as the rose? That is no mystery. Who was the first to hail and help build the first telegraph line? There sits the gentleman," and he pointed to Mr. Young.

The president then responded to a call for him to speak again. The leader faced his people silently for a moment. Then he said:

"When we came over the hills and plains in 1847 we made our calculations for a railroad across the country . . . All these calculations we made on our way here, and if they (the Federal Government) had only favored us by letting us have a state government, as weak as we were, we could have built a railroad ourselves . . . We want the benefit of this railroad for our emigrants, so that after they land in New York they may board the cars and not leave them till they reach this city."

Shortly afterward, riding a large black saddle horse, Brigham Young appeared in Weber Canyon to direct the starting of the grading from Echo to the shore of Great Salt Lake. He was there, for he had promised to take the contract for the $2,225,000 job. Of this sum, historians declare, the Mormon leader actually received only $800,000, although he himself was a UP stockholder.

With him were three of his many sons, Joseph, Heber and David, all sub-contractors, and Bishop Sharp, another sub-contractor. Joe knew something about railroads, having been an original member of the Peter A. Dey party which had made a Union Pacific survey in 1863. Joe and the bishop soon had more than five hundred men on the job. To them fell the heavy stone work of building bridge abutments and tunneling through the canyon.

L. O. Leonard, UP historian, is authority for the fact that without the active support of Brigham Young and his Latter Day Saints completion of the road would have been delayed for several years.

CLARISSA YOUNG SPENCER, a daughter of the leader, wrote a book entitled *One Who Was Valiant*, in which she described some of Mr. Young's problems, as follows:

"Father took the contract for the grading and the masonry of ninety miles of road from the head of Echo Canyon to the lake shore in order to complete the line by the time agreed upon. He needed some thousands of men more than could be spared from the farms, and so wrote Franklin D. Richards, in charge of immigration abroad, to make arrangements with the steamship line so that the emi-

grants would arrive well ahead of schedule.

" 'All men physically able to work,' he wrote, 'will be passed free from Omaha to the terminus and can, at the same time, travel with their families and friends on the cars, and so on with the trains to this place where they can be distributed on the work required."

Thus Young drew his railroad workers from Utah farms and industries, and from across the sea, where converts to the faith were eagerly awaiting an opportunity to live in Utah. They came "with speed swiftly," just as their leader had said they would.

Brigham Young was a "born horseman" and he kept close personal contact with the work. With his broad-brimmed black hat, black coat and brightly-polished boots, the leader was a familiar figure as his sure-footed horse picked its way in the rock-strewn canyon.

"Here comes President Young!" Word would pass among the Saints as they cut a path for the railroad through the Wasatch Mountains, the peaks of which touched the clouds at ten-thousand-foot elevations. The men looked up from their picks and shovels, their teams and scrapers, and their wheelbarrows, sometimes from heaps of rock and rubble that powder blasts had torn from the mountain side. Their faces lit up with pleasure as they saw "the man on horseback," for they knew that on his frequent tours of inspection Mr. Young would often stop to chat with some newly arrived immigrant or inquire after the family of any of the men toiling there; and each fellow was hoping secretly that he might merit such attention from his chief.

But all was not going well. As the grading continued down Weber Canyon and neared the little settlement of Ogden, the church president learned with a sinking heart that the railroad line was aiming directly at the north end of Great Salt Lake, away from the capital city. His anger flared.

"The damned cusses!" he exclaimed. "It wouldn't have cost any more to go south of the lake than north—the distances are about the same. After all we've done to aid the Union Pacific, one would think they would have shown us a little favor!"

According to Gen. Grenville Dodge, the Saints bitterly resented this choice of route. In his book, *How We Built the Union Pacific,* Dodge stated:

"We had only one controversy with the Mormons, who had been our friends and had given the full support of the church from the time of our first reconnoissances until the final completion. It was our desire and the demand of the Mormons that we should build through Salt Lake City, but we bent all our energies to find a feasible line passing through that city and around the south end of the Great Salt Lake and across the desert to Humboldt Wells, a controlling point in the line. But we found the line so superior on the north of the lake that we had to adopt that route with a view of building a branch to Salt Lake City.

"Brigham Young would not have this, and appealed over my head to the board of directors. They referred the question to the Government directors, who finally sustained me. Then Brigham gave his allegiance and aid to the Central Pacific, hoping to bring them around the south end of the lake and force us to connect with them there."

But Mr. Young was doomed to disappointment. Despite all the pres-

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TRAINLOADS of supplies, as well as boarding cars for Union Pacific construction gangs, were pushed across the prairie

sure he could bring to bear, the transcontinental line bypassed his capital.

IT WAS MARCH EIGHTH, 1869, when the rails reached Ogden. This was a typical pioneer village of adobe homes, wooden shacks, mud streets, plank sidewalks and a population of about twenty-five hundred. The Ogden residents were highly excited. They scheduled a celebration, to begin at the precise moment the rails were laid up to their town limit. From the top of every bluff and commanding elevation they "feasted their eyes and ears with the sight and sound of the long expected and anxiously looked for fiery steed."

Track-layers worked ahead of the first locomotive, speeding up their tempo as they neared the village. Finally, at half past two the shouts of the populace, the blare of a brass band and the thunder of artillery announced the engine's arrival. Indians, trappers, cowboys and frontiersmen circled the hissing monster, staring at her open-mouthed.

Shortly afterward, Congress announced that Ogden would be the terminal for the Union Pacific and the Central Pacific.

Brigham Young did not show up for the fete. He remained in Salt Lake City, planning a branch line for his beloved capital. This line had been authorized a month before by the territorial Legislature. On the very day that the Union Pacific rails entered Ogden, Mr. Young organized the Utah Central Railroad, with himself as President, this line to run between Ogden and Salt Lake City. Of course, he could have organized that road at any other date, but he boycotted the celebration because he felt that the UP had been unfair to Salt Lake City.

Young and his construction gangs, having completed their contract, now asked the UP for "cash on the line." With consternation they learned that the company was financially embarrassed. Tempers flared, harsh words were spoken, and hundreds of workmen feared they would not get paid for their efforts throughout a long and bitter winter in the narrow confines of Weber Canyon. Workmen and sub-contractors alike suddenly forgot the reverence that was due to the head of their church, and stormed at Brother Young. The sagacious leader had to use firm measures to control his angry men. Several non-Mormon sub-contractors actually brought suit against the Union Pacific to collect their money.

However, Mr. Young had plans of his own. Thinking of the prospective Utah Central, he served notice on UP officials that if they would advance him about $600,000 worth of locomotives, cars, rails and other equipment he and his sub-contractors might be willing to wait a little longer for the cash balance. The UP management, desirous of getting out of a bad spot, readily agreed.

A few weeks later, on May tenth, 1869, the golden spike was driven at Promontory, Utah, bringing together the transcontinental rail lines. Young did not attend this ceremony, either. He was still disgruntled because the builders had passed up his capital. To show his disgust, on the very day the spike was driven he was four hundred miles away, at St. George, his favorite colony in sou-

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DEVIL'S SLIDE, a rock formation in Weber Canyon, will always dwarf the trains which pass beneath it

thern Utah's so-called "Dixie," where he was encouraging the growth of cotton.

AS SOON as the noise of the nation-wide jubilation had died down, Brigham Young returned to Salt Lake City. He assembled his newly organized Utah Central Railroad directors and, with certain friends and church officials, proceeded to Ogden on May 17th.

No grass had been growing under his feet. His agents had already surveyed the route and secured some right-of-way for the Ogden-Salt Lake line. Today, they were to break the first sod for the Utah Central. Word that the prophet was in town to start a railroad to Salt Lake City spread like a grass fire. Soon a great crowd gathered at a spot where the present Union Pacific depot stands.

In typical Mormon fashion, the ground where the first sod was to be cut was dedicated by George A. Smith, a high official in the Church of Latter Day Saints. Then Brigham Young, now gray and still stout but every inch a dynamic personality, strode forward and carefully laid aside his "stovepipe" hat. Handed a pick, he swung it like a veteran, time and time again, into the rich loam, breaking the first soil for the construction of West's first cooperatively-built railroad.

Thereupon a brass band blared forth with martial music. Onlookers, sensing that history was being made, rushed forward and grabbed up small sacks of the soil. For weeks afterward, crafty merchants sold the soil in small bags to tourists passing through Ogden.

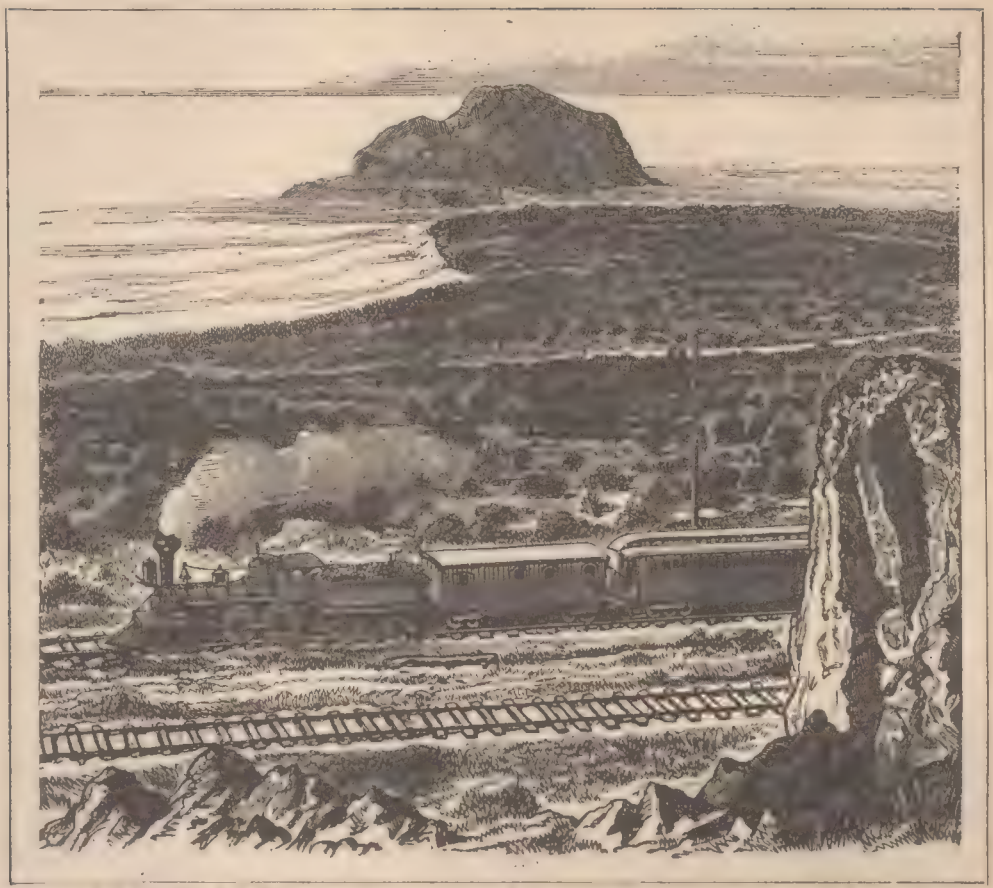
Among the crowd gathered around Brigham Young was a familiar figure about Ogden, one Tom Cahoon. Tom was a Union Pacific conductor who had lost his scalp in 1860 at Plum Creek, Nebraska, when Indians attacked his train. Always well dressed and gallant, Tom self-consciously preferred to keep his hat on, even when he approached the chief man of the territory, Brigham Young. He finally quit railroading and planted an orchard in Ogden, where he lived.

The Utah Central head found no difficulty in extending rails southward along the level bottom of Salt Lake valley. His former associates of the canyon job quickly volunteered and were assisted by Mormon settlers of Weber and Davies counties. The crews contracted to grade as much as five miles at a time.

In August the big chief sent gangs out for ties. Many were cut in the mountains west of Great Salt Lake, floated across the little town of Farmington and hauled to the right-of-way by ox team. By September thirty miles of grading had been completed to within seven miles of Salt Lake City. The book written by Mrs. Spencer, a daughter of the leader, has this to say about the Utah Central:

"The building of the road was another example of the way in which the pioneers co-operated when they wanted to accomplish something really big. Men left their fields to willingly work on the new railroad with pay uncertain, and the women along the route often left their household duties to go out and prepare feasts for the workmen.

"Usually the right-of-way was granted without any difficulty; but if it wasn't, father saw that the line went right ahead anyway. One man by the name of Joseph Wood, who had been on a mission for the church and when he came home and found



MONUMENT ROCK, in the foreground, stands at the northern end of Great Salt Lake on a now-abandoned UP route

the railroad running right in front of his house, simply went up in smoke. He was going to do something drastic to father. 'The idea, to usurp authority to build a railroad right past my front porch!' He came storming to see father, who first thing, asked him about his mission. Brother Wood was so angry he wouldn't tell him anything about it. Father said: 'All right, we have been hunting for a name for this little place and now we have one. We'll call it Woods Cross.'"

Today the village on that site has a population of 211, according to the latest census, and is served by two railroads, the UP and the Denver & Rio Grande Western. Oddly enough, it still bears the old name reminiscent of the time when Brother Wood had to be placated because the railroad crossed his property.

BY SEPTEMBER, 1869, the grade had reached Salt Lake City, and the Union Pacific laid its rails for a connection with the Utah Central. On September 14th, John W. Young, a brother of Brigham, assisted by Bishop E. F. Sheets, organized the first party of track-layers. As the work proceeded, Salt Lakers grew more and more enthusiastic. Late that month the crews were laying half a mile of track a day, and by

October they had doubled that rate.

October 14th was a red-letter day in Utah history. Brigham Young and his directors climbed into the cab of the first locomotive out of Ogden over the rails of the new line. The engine drew fifteen cars loaded with ties and iron. The big chief was all smiles when he was given the right side of the cab and "got the feel of the throttle." Gingerly he handled the engine for two miles under the guidance of the engineer. He was fascinated with the shiny brass gages, and blew the whistle and rang the bell amid the cheers of his directors. He even insisted on throwing a shovel full of coal into the firebox. A contemporary account in a newspaper states:

"President Young and the other gentlemen who returned with him speak with much pleasure of the gratification that the sight of the first locomotive on the first road built and owned by the people of this territory gave them—which augured so much for the future well-being of Israel."

AFTER grading the Union Pacific between Echo and Ogden, Mormons built the 37-mile Utah Central, between Ogden and Salt Lake City

Later a newspaper advertisement said the company would accept freight between Ogden and Farmington. When the rails reached Hot Springs, on the northern outskirts of Salt Lake City, a large crowd of curious spectators thronged around on foot, in carriages and on high-wheeled bicycles to watch the job.

On January 4th, 1870, Brigham Young directed his associates to prepare a spike-driving celebration scheduled for January tenth, just eight months to the day after completion of the transcontinental line. The day was cold and cloudy, but weather had little effect on the spectators who gathered for the driving of the last spike. As two o'clock neared, Mormon churchmen, territorial officials, and representatives of the Union Pacific and the Central Pacific arrived in Ogden on the first train over the new line. A wire received from Governor Leland Stanford of California said he was sorry he could not be present.

A few minutes before two p.m. a platform car was pushed by a locomotive up to the end of the track, while thousands cheered. Seated on the car were these officials of the Utah Central: Brigham Young, President; William Jennings, Vice President; Joseph A. Young, General Superintendent; John W. Young, Secretary, and three directors. Also George A. Smith of the Mormon Church and his apostles. In addition, there were UP and CP officials and employes, and G. B. Blackwell, Pullman Car Agent, and Colonel F. Anderson, *New York Herald* correspondent.

At the stroke of two, Brigham Young, clad in a Prince Albert coat, high hat, fancy vest and polished

FIRST train over Utah Central from Ogden arrived at Salt Lake City on January 10th, 1870. PORTRAIT: Brigham Young

boots, climbed down from his front seat on the platform car and accepted the spike maul. It was a dramatic moment. The leader's beard, now gray, was close trimmed. With calm assurance he returned the gaze of the multitude who were waiting breathlessly. The large steel mallet had been made at Mr. Young's request by a local blacksmith. It was elegantly chased. On the top was engraved a bee-hive, the inscription, "Holiness to the Lord," and the initials UCRR. The leader then took the spike, an iron product manufactured by James Lawson and elegantly engraved.

As Brigham Young braced his sturdy feet to start the swing, the sun, which till that moment had kept hidden, suddenly broke forth with unclouded brilliancy. With the bright sun in his face, he swung with all the vigor of his mature years; and at exactly nine minutes after two the last spike was driven home. Thirty-seven guns, one for every mile of track, boomed out the glad news in a grand salute. A brass band rendered martial music.

THE CHIEF APOSTLE of the Latter Day Saints never lost an opportunity to emphasize the religious side of Mormon enterprises. On this occasion he said: "The question may be asked, is not the Utah Central in debt? Yes, but to none of our people. Who has helped us do all this? I will answer the question; it is the Lord God almighty! What are the causes of our success in all this? Union and oneness of purpose in the Lord. We have felt to complain of the Union Pacific Railroad

WEBER CANYON affords rail access to the Great Salt Lake valley. BELOW: Union Depot at Ogden

for not paying us for the work we did in grading many miles of their road; but let me say that if they had paid us, according to agreement, this road would not have been graded and this track would not have been laid today."

He then thanked the UP and the CP and said: "I also thank my brethren who have aided to build this our first railroad. They have aided as elders in Israel, and what higher praise can I accord them for they have worked on the road, they have graded the line, they have laid the rails, they have finished the line and have done it without purse or script?"

The next speaker, a Union Pacific official, had this to say:

"I have been fifteen years engaged in railroad business, but have never before seen a single road made to which capitalists did not contribute their money or the responsibility of which did not fall upon the govern-

ment of the state in which it was built. But here, nearly forty miles of railroad has been built, every shovel full of dirt of which has been removed by the working men of Utah and every bar of iron on the road has been placed in position by their labor. You can publish to the world that the working men of Utah built their own road."

That evening came the big celebration in Salt Lake City. Every home in the city had a candle in its window to mark the event, while a mammoth banner across the main street carried this message, "Hail to Utah Central" and "Welcome the Great Highway." A huge bonfire burst forth from a nearby mountain peak above the city. Fireworks lighted the heavens. Brigham Young, with his Saints, gathered at the Salt Lake Theater for an evening of dancing and entertainment, and he sent this telegram to the various stations which had just been built under his direction:

"To all Saints throughout the territory: We congratulate you on the completion of the UCRR. The last rail and the last spike driven at two p.m today. Two engines and a number of cars, including two palace cars from the Union Pacific and Central Pacific railroads, were in attendance. Fine celebration. No accidents. Grand ball will be given at the theater tonight. Love and peace abide with you—Brigham Young."

The feelings of the old leader on this occasion are indicated in the following excerpt from the biography which was written by his daughter, Mrs. Spencer:

"Each change and advance in methods of communication and transportation brought this inland empire a little closer with the rest of the world, until the brightest dreams and hopes of the pioneers

UNION PACIFIC ***CHALLENGER*** passes Devil's Gate (at the right). Long ago, a chunk of mountain slid down into Weber River, blocking the canyon and forcing the stream to make a hairpin bend, the other side of which is pictured in the old print on page 12

were realized by the coming of the railroad in 1869. What must it have meant to my father, can best be imagined, for one of the most tremendous tasks he encountered in the farflung activities of his career was that of bringing the thousands of emigrants every year over the covered wagon trails of the West. After twenty-one years of it, he must have been very happy indeed to consign them to the safety and speed of the railroad.

"He seems to have had a very definite interest for railroading, for when he was making his first journey across the plains he often paused to point out to his associates the route that the coming railroad would use in its course across the continent; and in time the reality proved that his vision was correct."

ONE MONTH later — February seventh, to be exact—the Union Pacific officials, in keeping with their promise, delivered the Utah Central's first locomotives, Numbers 3 and 4. These had been built by McQueen & Company of Schenectady, N.Y., at a cost of twelve thousand dollars each. It is doubtful if any railroad executive and directors were prouder of their shiny new equipment than were the men of the Utah Central.

Brigham Young's reaction to the engines and rolling stock was almost childlike enthusiasm. The thought occurred to him that he should have a private car, and of this plan his directors voted approval. When the car arrived he had it decorated in keeping with his high office as President of the Church of Jesus Christ of Latter Day Saints. Ornamentation included gilt and scrolls, while angels and cherubim were painted on the ceiling. Altogether, it was quite a showpiece. The leader's main occupation in his latter years was giving spiritual guidance to his flock by preaching at church conferences held periodically throughout the territory. As he traveled over the Utah rail lines the Saints were duly impressed by his luxurious "chariot."

Brigham Young's death August 29th, 1877, was almost coincident with the ending of a great railroad strike, the most widespread that America had known up to the time. However, no labor troubles ever affected the Mormon co-operative railroads.

With the old man's death, his private car is said to have been put in storage. What eventually happened to it is a matter of conjecture. R. A. McKelvie, a newspaper writer, has assembled contradictory reports on the subject. Some say this car ran on the Canadian Pacific. Others claim it was sent to Alaska or to Cuba, in the latter case being used as the island's first presidential car. According to another theory, the car ended its days on a mining project in British Columbia, being finally cut in two for use as shelters on a rifle range. It is deeply regrettable that the famous vehicle was not preserved as a museum piece, a relic of early Utah history.

Meanwhile, the railroad idea continued to spread. Folks who lived south of the salt-saturated inland sea felt the need of a rail line which would connect their remote settlements with the capital. The valleys lying beyond that of Great Salt Lake were rich in agriculture. There grew up a demand for another road. And so in January, 1871, the Utah Southern was organized. Nine years

later it was completed to Juab and then to Silver Horn Mine, one of the largest coal operations in the territory.

When the towns of Provo, Lehi, Nephi and other points in southern Utah gained sufficient population and the surrounding lands were given over to agriculture, the Utah Southern and the Utah Southern Extension were incorporated into the Utah Central. Finally, in 1900, the UC was absorbed by the San Pedro, Los Angeles & Salt Lake—known as the "Salt Lake Route"—which in turn was taken over by the expanding Union Pacific system.

Thus, at long last, a Union Pacific main stem entered the holy city of Latter Day Saints "at the cross-

ABOVE: Weber Canyon, ten miles east of Ogden. BELOW: Same canyon, five miles east of Great Salt Lake valley. Westbound track, at left, was graded by Young's workmen. In their wildest fancy they could not have pictured today's parade of tonnage through the gorge, hauled by the world's largest locomotives

roads of the West," fulfilling in large measure Brigham Young's heartfelt ambition many years after his death. And by the irony of fate, the old rail route around Great Salt Lake's northern shore—the route which aroused the Mormon leader's bitter resentment—has been abandoned in favor of Lucin Cutoff (featured in the June '44 issue of *Railroad Magazine*) whereby trains now run directly across the inland sea. The latter route gives passengers one of the most spectacular rides afforded by rail travel anywhere in the country.

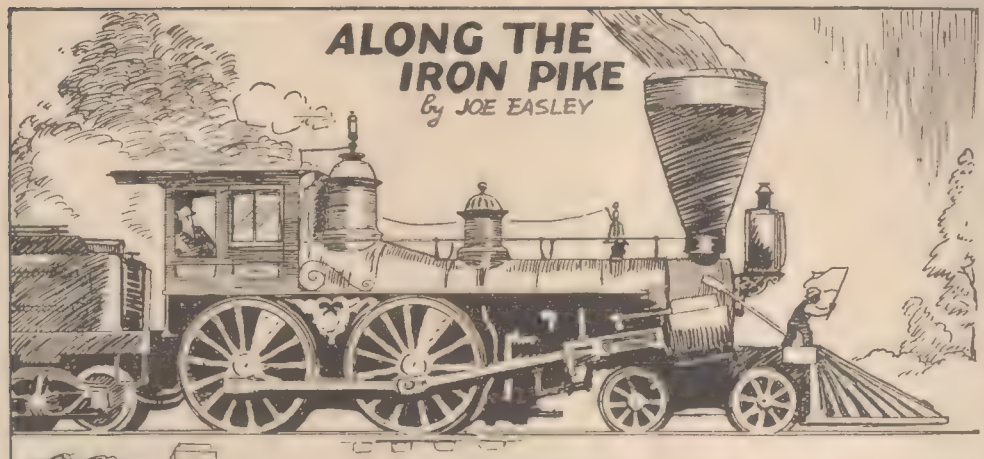
Completion of the cutoff, which links Ogden with Lucin, was celebrated Thanksgiving Day, 1903. However, it was not until March 8th, 1904, that traffic was diverted to the new line. From that date on, the roundabout northern route was used less and less, and finally was discontinued. Brigham Young probably would have welcomed this change.

If the bearded patriarch who led his people to Salt Lake valley in 1847 could only come back to them today he might give a sly chuckle at seeing scars in the ground where steel rails and wooden ties have been torn up at Promontory, famed for the golden-spike ceremony he boycotted in 1869. And doubtless he would gaze with joy and pride at the direct, speedy, rail connection between his beloved capital and the western coast at Los Angeles. More than ever he would say of Utah, as he said nearly a century ago, "*This is the place.*"

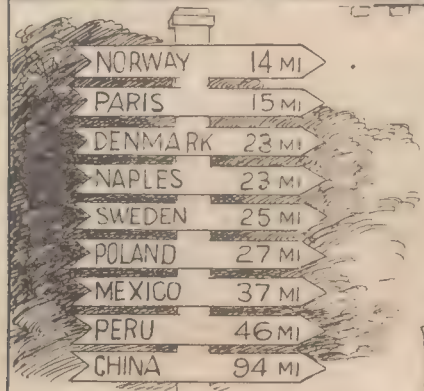
Next month: ANNUAL SPEED SURVEY, by Donald M. Steffee

ALONG THE IRON PIKE

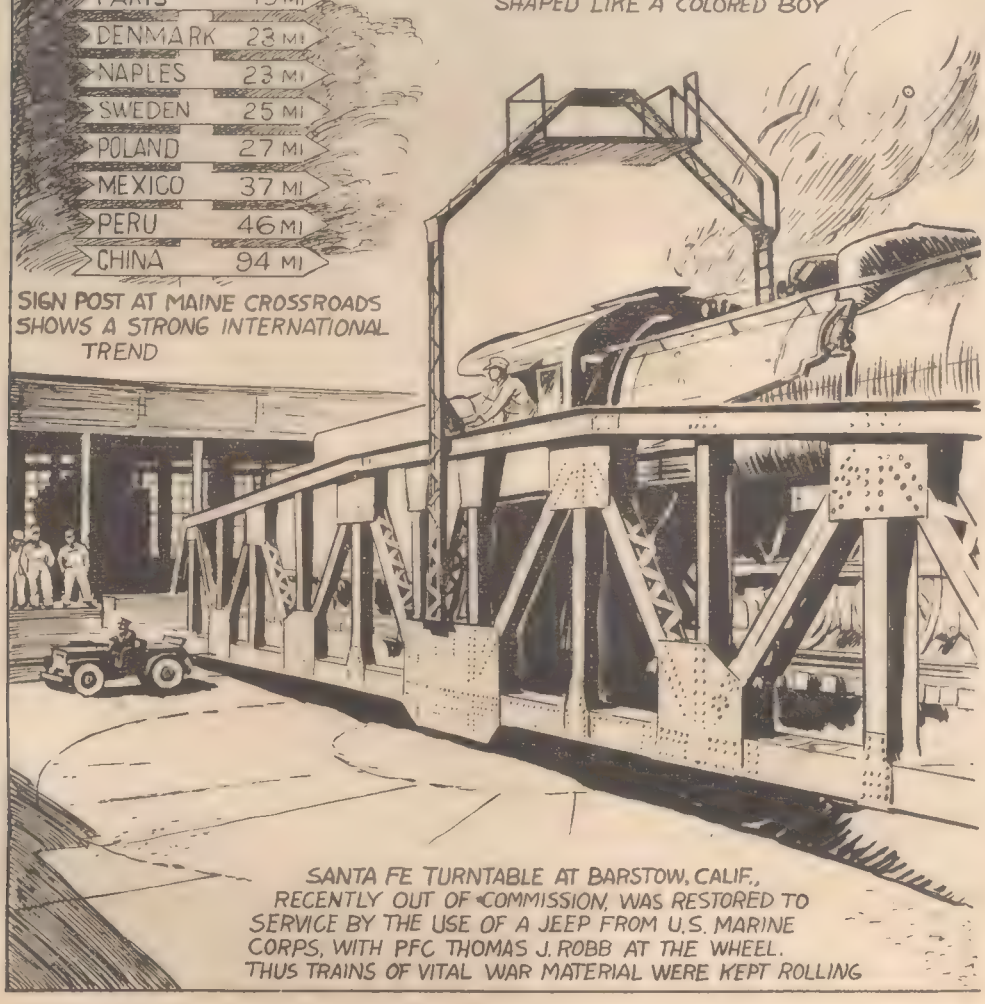
By JOE EASLEY



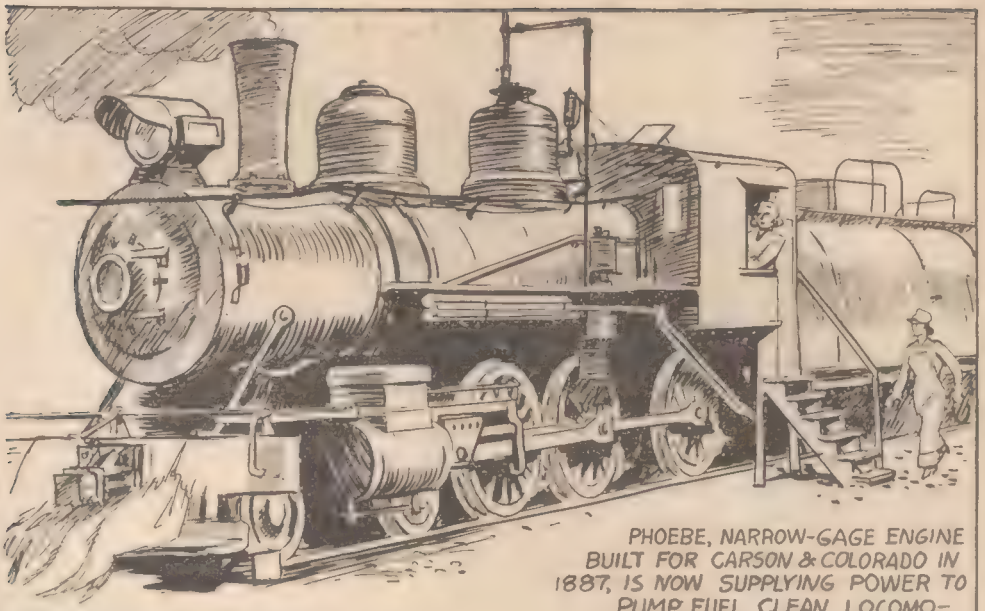
ERIE BROAD-GAGE ENGINE NO. 135, BUILT BY N.J. LOCOMOTIVE & MACHINE CO. IN 1852, HAD ON HER PILOT BEAM A CAST-IRON FLAG-HOLDER SHAPED LIKE A COLORED BOY



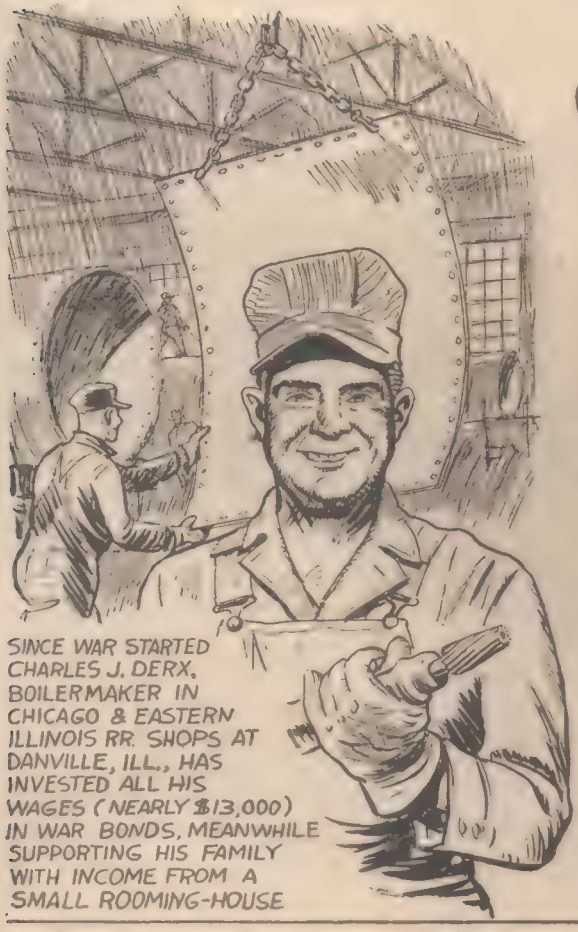
SIGN POST AT MAINE CROSSROADS SHOWS A STRONG INTERNATIONAL TREND



SANTA FE TURNTABLE AT BARSTOW, CALIF., RECENTLY OUT OF COMMISSION, WAS RESTORED TO SERVICE BY THE USE OF A JEEP FROM U.S. MARINE CORPS, WITH PFC THOMAS J. ROBB AT THE WHEEL. THUS TRAINS OF VITAL WAR MATERIAL WERE KEPT ROLLING



PHOEBE, NARROW-GAGE ENGINE BUILT FOR CARSON & COLORADO IN 1887, IS NOW SUPPLYING POWER TO PUMP FUEL, CLEAN LOCOMOTIVES AND HEAT SOUTHERN PACIFIC ROUNDHOUSE OFFICE AT SALEM, ORE.



SINCE WAR STARTED CHARLES J. DERX, BOILERMAKER IN CHICAGO & EASTERN ILLINOIS RR. SHOPS AT DANVILLE, ILL., HAS INVESTED ALL HIS WAGES (NEARLY $13,000) IN WAR BONDS, MEANWHILE SUPPORTING HIS FAMILY WITH INCOME FROM A SMALL ROOMING-HOUSE

IS JULIA CARTER, 13, THE YOUNGEST GIRL TO HAND UP "19" ORDERS? JULIA IS A GOOD TELEGRAPHER. SHE HELPS HER FATHER, R. C. CARTER, ATLANTIC COAST LINE AGENT AT COPE, S. C.

Under Two Flags

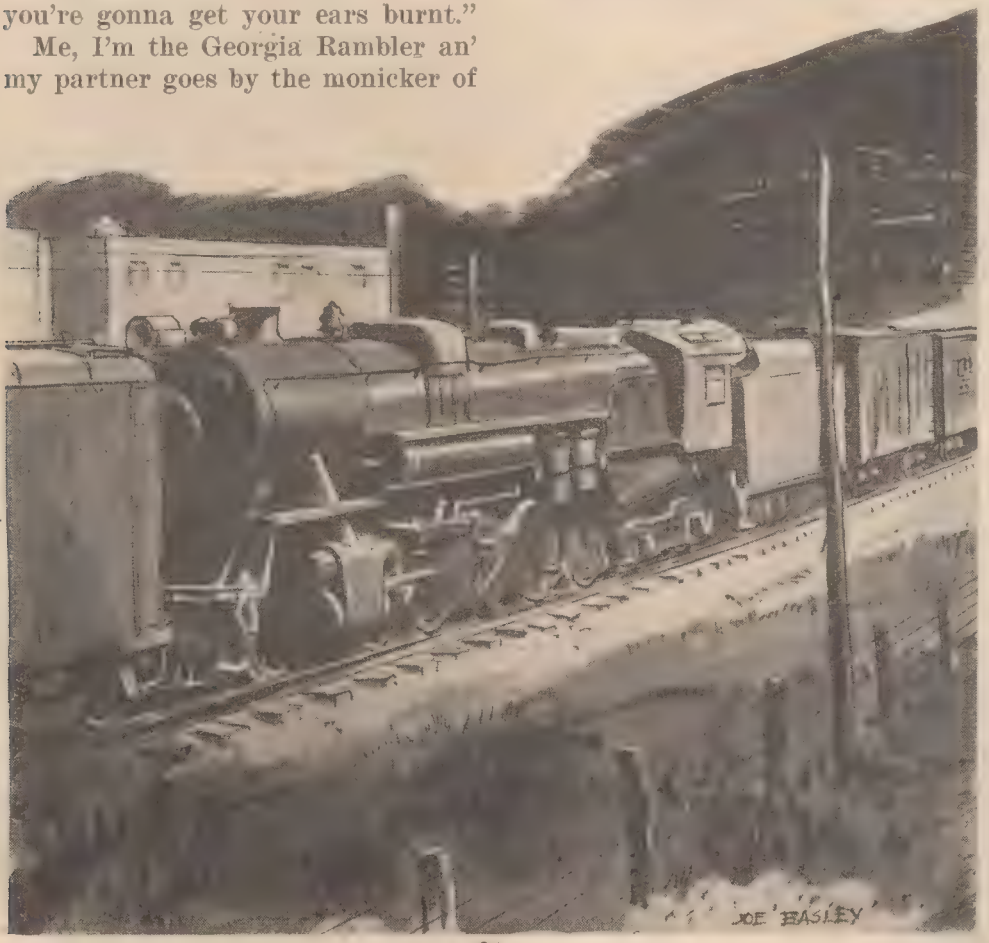
Me and Tidewater Clam Are Used to Fake Names, but Not the Kind Given Out by Master Maniacs

By the GEORGIA RAMBLER

(Don Waters)

THE SLIP FOREMAN calls to us where we're working on a Mallet out in the yard behind the roundhouse. "They want you guys in the office," he says. "There's gonna be merry hell poppin' an' ain't I glad I talked myself out of it! You better pull your caps down, 'cause you're gonna get your ears burnt."

Me, I'm the Georgia Rambler an' my partner goes by the monicker of Tidewater Clam on account of he don't have much to say but when he does say something, he generally gets a good one off. We're a coupla boomer nut-splitters. We been working here for six months now. That's a long spell at one place. It's about time something blows up and we both



figger this is it. We got a good idea what's up, so we're not surprised.

Tidewater lays down the hammer and chisel he's been using, wipes off his hands on a bunch of waste and grins and says: "Let's go, Georgia."

So we ambles over to the shop office. Jim Brown, the shop foreman, is sitting scrunched down in his chair. He's mad but he can't do nothing about it. It's easy to see he's been getting some two for one. Acrost from him sits a guy I never seen before. He's chewing on a se-gar butt like a rabbit cutting cabbage.

Over on the other side of the desk sits Old Man Simpson, the Master Mechanic. He's mad also. Simpson looks as though he just had a once-over and none too lightly. He's got his pocket knife out turning it around in his hands. That's a sure sign there's something on his mind. We've known the old guy for a long time since he was on the drop pit on a little old wooden axle road out West. He's come up fast and worked for five or six roads since. We quit on him more than once at various places. He used to be a boomer, too, but he got married—and that generally turns a roving brother into a home guard.

The duck with the se-gar looks like he just caught someone robbing a orphan's home. He gazes at us a long time with a fishy eye, saying

nothing. He's getting his line ready. We stare back, sizing him up.

Finally he speaks: "In all the time since I've been Superintendent of Motive Power on this road, I never run acrost such a re-pre-hensive act. What have you two got to say for yourselves?"

Tidewater replies: "Well, mister, you gotta damn fine job. Mebbe you'll see lots of things if you hang on to it."

At this, Old Man Simpson swells up like he's gonna bust. Jim Brown gets red in the face and has to get his handkerchief out on account of he has taken a sudden fit of coughing. This duck seems to be sorter knocked off balance. But he recovers.

"I've investigated the matter person-ally," he says. "You two," pointing first at Tidewater and then at me, "you switched number plates off the front ends of the 833 and the 837. You took the number panels from the cabs and swapped them also." He pauses. "The 833 was due in for a boiler test. You, on your own responsibility and without orders, changed numbers and sent in the 837. A very serious matter. You have broken the Government regulations."

He goes on all about Interstate Commerce laws, safety rules and a lot of other things I don't pay much attention to. I'm trying to figger how they caught on to what we done. The 837 needed a general overhaul. The 833 was in good shape. It seemed a fine idea at the time to shift the numbers, seeing as how the road was hard up for power. We should of gotten away with it. How did they catch up with us?

Then I learn. We done the job one night out behind the shop in the dark. The brass hat is going on with his lecture.

"You forgot one thing," he accuses. "You didn't change the headlights."

"Oh, oh!" Tidewater exclaims.

I KNOW NOW. We forgot those numbers on the headlight. When this engine comes in to the back shops, they spot that. Dumb bunnies we was, I think to myself.

Well, anyway, the 833 with a monicker has been doing good work for ten days now. The company needed her here, short as it was for power. We'd been having a lot of trouble, engine failures out on the road and all that. This is wartime and the road sure is busy. We was just trying to help out Jim Brown on account of the fact that he is a regular guy. We couldn't see no use in sending a jack off to the big shops that was in good shape and meanwhile keeping a lame duck like the 837.

This brass hat has worked hisself up into a lather. 'So," he shouts, "I'm firing you both! Collect your time, get off company property, and never show up here again!"

We amble out. As we go toward the roundhouse, I remark: "Tidewater, ain't we heard words like them before?"

He nods. I notices he looks a little sad. I thinks to myself, it's that little biscuit-shooter over at the lunchroom. He's soft on her and he hates to leave. We've blown many jobs before and it never caused us to mourn. What's a job, anyhow?

The slip foreman sees us coming and shakes his head. "I see they put the air on you," he says, "give you the big hole? Well, boys, I hate to see you go. I'm short of help now, as you know. I don't see how I'm gonna get 'em out." He points up to an engine in the stall beside us and

rustles a work report. "Here's the 963. She's called. There ain't but a half hour till leavin' time an' she oughta be out now. She's got enough work reported on her to keep a coupla guys goin' for the rest of the day an' two more shifts to boot." He hunches his shoulders and fans out his hands. "What can I do? She's just got to run as long as she'll stand. Then we'll prop her up an' run her some more."

We leaves him with his grief and we go around to say bye-bye to some of the gang. They's a lot of nice fellows here, mostly home guards what has stuck on the job for years. That's how Tidewater and me was spotted so quick for that engine switch. We're the only two boomers on the job who ain't got much to lose.

Well, anyway, we goats around with the gang for a little while and then we start acrost the tracks toward the boarding-house. As we come up to the depot, the 963 is standing there. Old Bill McCully is hoghead. He leans out of the cab window and calls: "Hey, you guys!"

Now, Bill is a nice old fellow. I hear that whenever any nut-splitter around the shops gets hard up between pay days, they can always touch him for a fin or mebbe even a ten-spot. Me and Tidewater never has to call on him on account of us being well heeled at the present. Bill's been on the road since the days of butt-end switches, link-and-pin couplers and wood-burners. He's a fussy old duck. Always buys his own tools. Company tools ain't good enough for him to carry. His toolbox is a load to lift. It's a relic of the times when a engineer used to have to do most of his own work. Anyway, we go over.

"Boys," he says, "give me a hand. My left injector won't suck water and my right is hard to prime." He looks at his watch. "I got ten minutes to leavin' time and I need some help. This pile o' junk is in terrible shape."

THEREUPON Tidewater and me climb aboard. He open his toolbox and spread out a nice bunch of tools. We pull the injector. While we're at it, a yard engine bumps the train onto us. Well, we can't leave the old man with his troubles, so when he gets a highball and starts, we're still working on the injector. It's got a wad of waste in the nozzle, and we clear it. She works okay for a while, then the damn thing quits again. We get three gages of water in the boiler, though, before she blows.

At the first stop I unload and knock the couplings apart on the tank hoses. No wonder the injectors won't catch. All the strainers are plugged with waste and trash. I'm coupling up when I happen to look back along the train. We been so busy that we ain't noticed what we was hauling till now.

Tidewater Clam, working up in the cab, spots the same thing I does. "Georgia," he calls under the tank to me, "did you see what I see?"

I do. We ain't got but one coach behind us. Standing alongside it, I spot the Superintendent of Motive Power, the Master Mechanic, the Roadmaster, and a half dozen other brass hats I never seen before. I scrooges up small and taps lightly on the couplings so as not to draw any ears my way.

Simpson, the M.M., strolls up toward the head end. I'm bunched up under the tank like a ground squirrel in a brush heap making my-

self as inconspicuous as possible. I see his legs. They get slower and slower till they stop right beside me. Just then I hear the injector crack and suck water.

Tidewater, up in the cab, calls down: "She's okay, Georgia!"

I thinks I sees the old man's knees sorter knock together. I guess I was just seeing things; for he turns and walks back away very fast. I get up in the cab just as we start.

Bill McCully now tells us how we got a bunch of brass hats aboard. They are inspecting the road to see why we was having so many engine failures and delays. I could of told 'em that and saved them the trip, the reasons being a short shop force, too few engines and too many trains. And the delays, if they'd just shorten up the distance between the engine and the crummy on the freights they could get over the division faster. But they ain't asked me. Tidewater and me, we got no right on the road at all, but here we are.

We have figgered we'll keep out of sight and ride down to the other end of the division and see how things line up at the roundhouse there. Our train thumps along. We gotta wait for 42, the noon passenger at Hillcrest a few miles away. There's a lunch-room acrost the street from the tracks, so we amble over there to grab a hamburger or two and a cup of Java.

Before we finished, the fireman offen the 963 comes a-fanning over. "Say," he announces, "we got a leaky flue! She's a sprayin' water like a sprinklin' hose. Come on, you guys, an' see what you can do before it kills the fire."

Tidewater calmly sucks in the last of his coffee from his saucer. Then he turns to the little blonde who is kept busy waiting on the counter.

"See," he says, "we're important guys. We can't even eat a meal in peace."

She replies between cuts at her wad of gum: "Sure, mister, I can see how you rate. Every hoghead that comes in here owns a big farm in the country. Every tallowpot is a college boy just working during his vacation. An' even the shacks all has a rich uncle out in Missouri with a bad cough. It'll be two bits each."

She holds out her hand. We pay off.

ON THE 963 we sees the flue in the lower left corner is spraying water. Well, it won't be long before this engine is dead and her running done for the day. A drumhead might pull the fire, cool her down and bead up the flue, but there ain't no boiler-buster aboard.

Old Man McCully is hunting through his toolbox. He pulls out a tapered plug. "Ah," he says, looking at it fondly, "I knew I had one with me. I ain't needed this for years. But you never know what will happen."

Them are true words. Tidewater gazes at the plug with a mournful look.

"Well, Georgia," he says, "we might as well go through with this, since we started."

I begins to button up my shirt front and tuck my breeches into my shoe tops.

Tidewater shakes his head. "No, Georgia," he says, "you have et too many beans in your time for this job."

I guess he's right at that. My stummick ain't as flat as it once was. I guess I'd have a time squeezing in through a firedoor. Which is what

Tidewater does. The fireman has put in a good bed of green coal, covering the fire. We bust up the coal gates and lay them on top of it and open the blower wide. Tidewater wraps a handkerchief around his neck, pulls his cap over his ears, borrows McCully's gloves and pops in through the firedoor like a rabbit going into a hole. All I can see is his feet as I pass in the coal hammer.

Now, that's no sweet place to be inside of—a firebox with a flue ready to let go and shoot a stream of superheated water and steam right in your face. It's not only hot in there but it's fogged thick with smoke and gas. I'm setting right at the door ready to haul my partner out. He is sweatin' inside, but I sweat too. That is the longest coupla minutes I ever spent. I listen to him beating away with the hammer.

Once I hear him yelp, but when I holler, "Are you all right?" he answers back a muffled, "Okay."

He drives the plug in tight. I catch his feet and drag him out and start to get a bucket of water for him to cool off. But Tidewater is no sooner out than he jerks his handkerchief from his neck. He never takes time to unbutton his shirt—he rips it off. I wonders what is up. Then I see. Down the middle of his back a row of red spots is turning to blisters. A hot scale must of fell off the crown-sheet and dropped down his neck. It sure spots him all the way along his backbone till it stopped in the seat of his britches. He ain't long in getting shut of it. I smears the spots what has started to blister with valve-oil, and Tidewater says he feels okay now.

About this time Number 42 goes past, and we get going again. The fireman is busy with his hook and slice bar getting his fire straightened out. He finally comes up on the seat-box beside me. He tells me that when we was working on that flue Old Man Simpson comes up to the front end and spots the black smoke we're making on account of the green coal on the fire.

"Funny, though, I can't make it out," the fireman says. "He just gets up to the 963 about the time you all was knocking in that plug. He starts up the gangway, stops with his foot on the first step, then beats it back again. He's lookin' kinda worried, but he never says a word."

IT HITS ME sorta funny too. However, I ain't got much time to think about that. The 963 is beginning to pound, just a light tap at first that gets louder as we go along. Before we make another ten miles she's really thumping. It's on the right side. I figger it's a brass busted and a main pin hammering, on account of it getting worse all the time. Lucky we got a stop ahead, for when we takes a siding you could of plugged the whistle and still hear us a coming for miles.

We stop at a tank on the siding. This tank gets its water about a half a mile up on the hill at a little creek. That's where the intake is. There's a wooden coal chute and a shed over a pit. Once upon a time they used to keep a helper engine here on account of pushing the freights up the hill below us. But they don't use a helper no more. The power they use now is heavy and generally can hump the loads over all right. And if they don't, they can always double the hill.

Anyway, Tidewater Clam and me get out to see what's knocking on the right side. We can't notice nothing

wrong. The side and main rod brasses and pins are okay. The crosshead is tight in the guides. The monkey motion ain't got no slack in it.

Tidewater, standing at the cylinder, calls to Mac. "Give her a little steam!"

He does. We needn't look no further. *Wham!* The piston comes up against the front head. The piston is loose on the rod inside the cylinder and has enough slack to bump the head. She wouldn't run long before she knocks that head off. It's a wonder she ain't done it already. Well, we both know they ain't but one thing to do. If this engine makes the run, she's got to make it on one side. But that ain't no two-minute job to strip her. The gang in the coach behind is bound to come up and see what's the delay.

I looks back to see what's doing. And I sees. Old Man Simpson is leading a procession single file up the side of the hill. What they hope to see at the intake beats me.

Tidewater grins a little at the sight, then scratches his chin. "Perhaps, Georgia," he says, squinting his eye up at the parade, "we mebbe can get this job done before they come back."

I ain't so sure. But we start, anyway. While Tidewater disconnects the monkey motion and blocks the valve on center, we—Mac, the fireman and me—begin getting the rods off her. That's no easy job. Those rods are heavy and hard to handle, even after the flagman comes up and gives us a lift. We work fast, casting our eyes up the hill every once in a while.

Like I said, Jim Brown at the shops has treated us swell. If we can help him out, we are more than willing. We know that if this bunch of brass hats is wrought up on account of engine failure they'll take it out on him. So, expecting every minute to be caught at the job, we wrassle with the rods, and finally get them off.

We'd of liked to lay 'em up on the running board and take 'em in with us, but we ain't got enough beef here to do that; so we slides 'em into the weeds in the ditch. The extra force can load 'em and send 'em in. And we just get set when the procession shows up coming back down the hill. Tidewater and me scoots up in the cab. They get aboard an' *ca-chee! ca-cheee!* the 936 pulls out. Lucky we got a downgrade, or we might of been stuck on center in starting. We got no load to speak of behind us, and we travel right along, though a time or two on a up grade I wonder if we're gonna stall.

BUT OLD MAC sure knows how to handle a jack, and he horses her over the road. We got another wait twenty miles further along. Tidewater gets out on the running board and spots the drivers. Mac slows down till we're barely moving. The flagman runs ahead and flips the switch. And when my partner gives the signal, Mac sets about a thirty-pound slap of air on the brakes and we stop sudden on the quarter. I wonder if that bunch riding us notices these bumper stops, but there ain't no sign from them.

Well, Number 180, a hotshot freight, piles past and we get going again. We like to stall this time on account of the fact that we almost have to stop for the flagman to close the switch behind us and get aboard the hind end. We're on a upgrade and when we moves on to center, the 936 is just barely creeping. I sight

a whistle post. I can hardly notice it move. Old Mac leans out the cab window, drops her down in the corner and jerks the throttle open. She hesitates and seems to stop. Then she shudders, grabs hold, and we're rolling.

"W h e w!" Tidewater whistles. "That was close."

At length we get over the road. It's a fine afternoon. All the trees is changing color on account of it being fall. The sky is blue and deep. The cornfields is stacked up with shocks and such things on the farms we pass. I sees all this as we *ca-chew* our way over the division. I ain't thinking of them, though. I'm a-wondering what's gonna happen next.

Acrost the way, with nothing but a line of telegraph poles and a wire fence between, is the right of way of the B&W running along through this valley close to our tracks for miles. As we pull into a siding for a meet, I notices a long freight stopped right acrost on the B&W. Well, the sun starts down, red as a ball of fire. Night will soon be on us and we got about twenty more miles to go. We are stopped for a meet with 173, a hotshot freight.

Old Man Mac opens up on the headlight throttle. No soap. That turbine throws out a blob or two of water, then begins to whizz. She's spinning up to speed but the cab lights is dead. Mac flips the headlight switch over his head. No soap again. It's dead, too. Me and Tidewater get out on the boiler top to see what's wrong. It's beginning to get dark now. We soon see. The field coil is burnt as black as my hat.

Well, I never was much on these scissor-built things, and I can't figger out what we're gonna do now. Tidewater looks over at the freight acrost the fence. "Oh, oh, Georgia, do you see what I see?" he points.

There's a dead engine in that freight. She's got her rods off and her cab is boarded up. She's a spanking new job just come from the builders. Generally they have a watchman aboard but he ain't in sight. I guess he's back in the crummy playing seven-up with the crew. I catch on. I see a headlight machine on her. It's a Pyle, the same as the 963 has.

Well, I ain't so quick on the uptake, but I knew what Tidewater has in mind when he starts acrost, climbs through the fence an' crawls up on the front end of the dead hog. Old McCully is busy oiling around on the other side and don't see what Tidewater is doing.

I PULL the brush holder, uncouples the through bolts, take out the burnt coil on the 963 and carry the damn thing over to Tidewater. It gets dark about this time, and in a few minutes I see 173's headlight blinking as she comes at us a coupla miles off. The hotshot rattles past and we get going again. We put the new coil into the machine, working on it as the 963 gets started. Tidewater points back and says: "I took the trouble to put it all together nice and neat. We got caught once by being careless, Georgia. It pays to do things right."

Them's also my sentiments. Now, some guys would of just left the new engine and that machine on it strewed all around and never bothered about putting it together just like it was okay. Honesty is the best policy, I always say. Well, back in the cab old McCully starts up the headlight. She worked.

"You guys are good," he rejoices

as the cab lights up. "That headlight has been in bad order a long time. I was stuck with the 963 a week ago and had headlight trouble with her then. How did you fix it so quick?"

"Oh," says Tidewater, "me an' little George Westinghouse went to different schools together."

The hoghead looks at my partner sort of funny like, but he don't say nothing. You can see he is still wondering how come we managed to put that headlight back into shape so fast. I guess he thinks we're pretty good.

We wham our way along. About eight o'clock or so, we finally make the terminal. As we gets off, Tidewater looks at the 963 and shakes his head.

"What a ride!" he exclaims.

Up the platform we see the bunch we been carrying as they troop along toward the depot. One drops behind, then starts back. As he gets closer I see it's Old Man Simpson, the M.M. I start to fade away.

Tidewater catches me by the arm and says: "Stick around, Georgia. I guess he wants to see us."

So we wait. He comes up, looks at us long and sharp. Then he sorter rubs his chin like he's thinking.

"Strikes me," he says, "I've seen you two before."

This is funny to me. He knows us all right, all right. I wonder what he's driving at. Then he nods to hisself.

"Ah, yes," he goes on, "I recall now." He points at me. "You're John Green."

I jump a little at this, since I can't recollect ever going by that monicker. But then, of course, what's one more flag to a boomer who's had so many fake names already that he's lost count of them?

He turns to Tidewater. "And I remember you too," he says. "You're Joe White."

Tidewater merely grins. As for me, I think the M. M.'s crazy; or it's only a question of seconds till he catches on to who we are. When that moment comes, I want to be far, far away. Search me why Tidewater looks so happy, or why he seems to think I should be grinning, too.

"Say," the Master Maniac invites, "Jim Brown at the other end of the division needs a coupla good men. I'd go an' see him at once if I was you. Here, wait."

He pulls a piece of paper from a notebook, lays it against the side of the tank, writes with a pencil, folds it up and hands it to Tidewater. Then he hurries up to join the bunch he come with, who are just going into the station.

I look at the Tidewater Clam goggle-eyed. He puts the paper in his pocket. He's grinning like a darky loose in a ripe watermelon patch. I can't make out what's up. Well, I don't find out till we're riding back on the cushions on 71, which pulls out about a half hour after we get in. I'm burning up with curiosity.

Tidewater takes the paper from his pocket and reads: "Attention Mr. Brown. This will introduce to you two very good men by the names of Joe White and John Green. Please put them on the payroll as of this morning, and mark them up for overtime till midnight tonight." It is signed "D. Simpson."

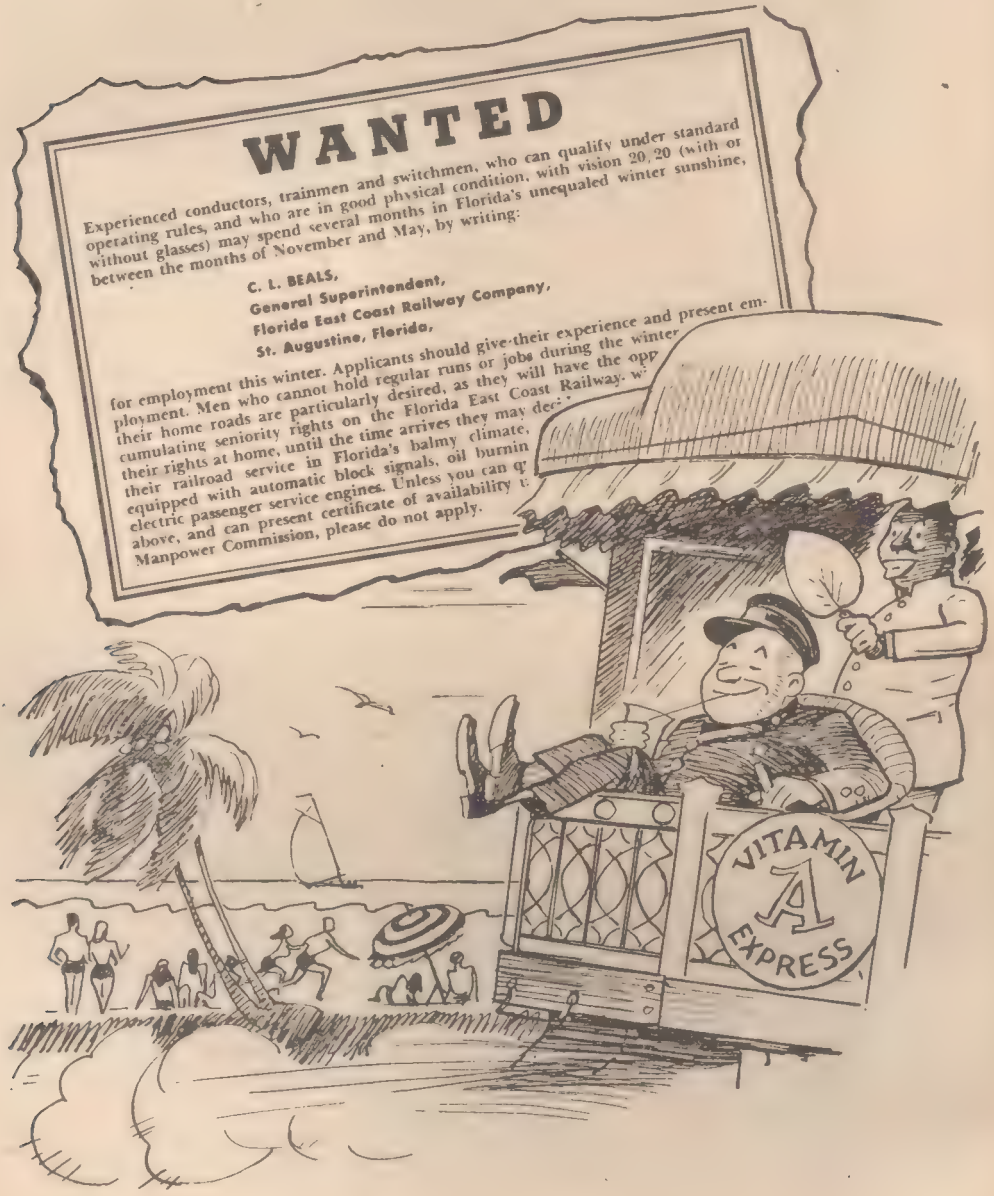
I open my mouth a time or so but can't get nothing out. Finally I says: "But, Tidewater, how comes all this? What in the hell happened, anyhow?"

He folds the paper up. Then he

smirks. "Georgia, the old man ain't no fool. He's split many a nut in his day. He knew what we was doing on the 963 all the time. That bunch he was riding with would of rawhided him if she failed. He knows we kept her going."

Tidewater smiles all over hisself when I says: "Well, we been under many a flag in our day, but this is the first time that someone pinned a flag on us."

He nods absent-mindedly. I'll bet he's thinking about seeing that little tomato regular again who slings hash at the trackside lunch-room.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Experienced conductors, trainmen and switchmen, who can qualify under standard operating rules, and who are in good physical condition, with vision 20/20 (with or without glasses) may spend several months in Florida's unequaled winter sunshine, between the months of November and May, by writing:
C. L. BEALS,
General Superintendent,
Florida East Coast Railway Company,
St. Augustine, Florida,
for employment this winter. Applicants should give their experience and present employment. Men who cannot hold regular runs or jobs during the winter
their home roads are particularly desired, as they will have the opp
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their rights at home, until the time arrives they may de
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Manpower Commission, please do not apply.
VITAMIN A EXPRESS

SORRY, BUD: they got no rods to ride

YARDMASTER'S NIGHTMARE left by pre-invasion bombing

LINING THEM UP for splicing. Accommodating Nips left neatly stacked spare rails

CARRYING CAIN TO TOKIO

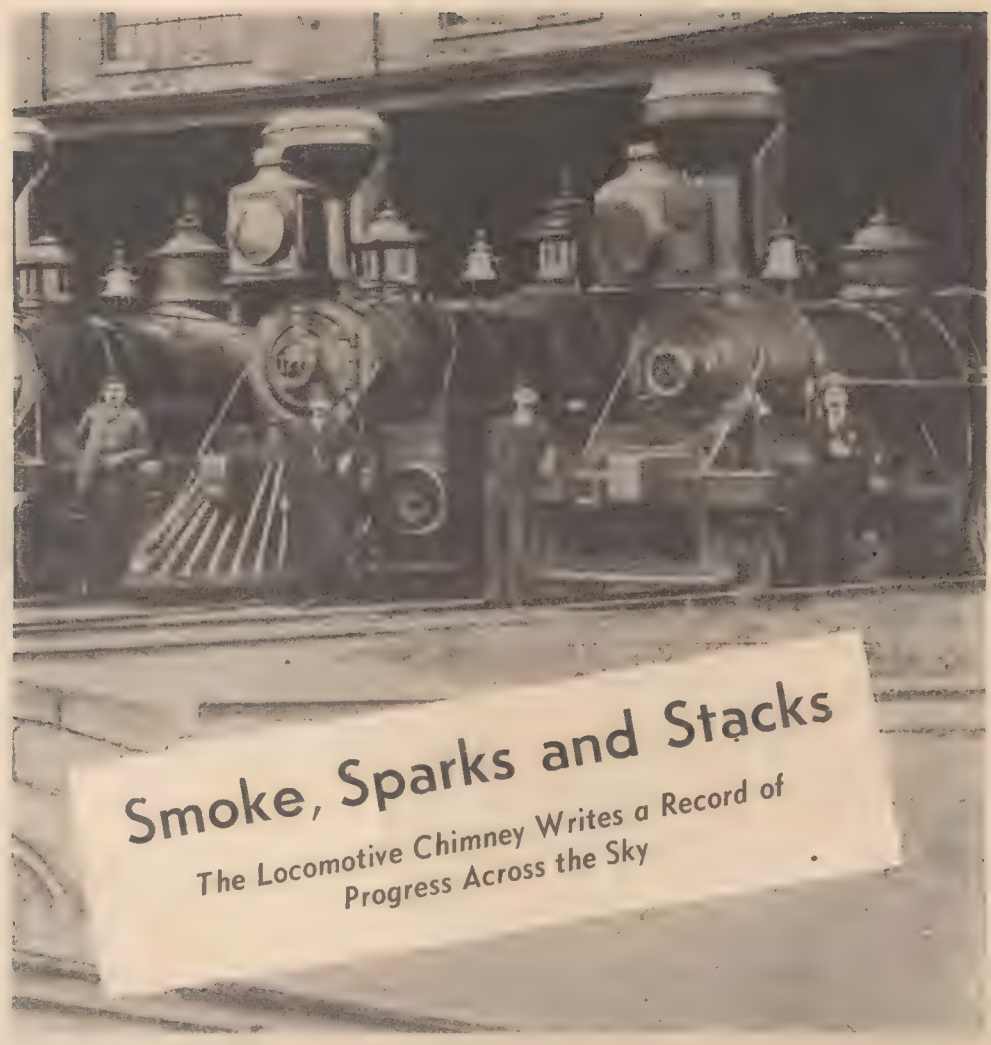
SEABEES ON SAIPAN joined Army engineers in repairing slim-gage sugar-cane railroad used by the Japs prior to island invasion. Within two weeks of occupation, the six-mile line was running on schedule between Charan-Kanoa and Aslito airfield.

BELOW: A little southeast of "South Carolina," a GI-christened namesake gets a boiler wash.

DIAMOND-STACKED BEAUTIES of the '80's face the turntable pit at Delaware & Hudson's Relanson, N. Y., enginehouse

THE TIME: A warm summer evening in the 1870s; the place: any rural railroad crossing in the United States. A wagonload of kids has pulled up close to the black embankment to watch the passing of the *Night Express*. Far down the line a crimson streak of afterglow dissolves upon the rails. And then from out of the darkness it comes; a luminous, multi-pointed star that rocks and quivers ever nearer, to form, in one last blinding a moment, an onrushing oil headlight. The earth shakes and old Dobbin rears —the youngsters shout. High in his cab a bewhiskered fire-eater raises his hand in solemn salute, and then the train is by, with a clatter of complaining splice-bars.

Ask any veteran of those days what impressed him most about this spectacle. The hugeness of the complicated mechanism? The noise it



Smoke, Sparks and Stacks

The Locomotive Chimney Writes a Record of Progress Across the Sky

made? Or its speed, perhaps? No, he will say, it was the swirling flame from the stack and the bright pyrotechnic display that continued in the heavens long after the last coach had disappeared.

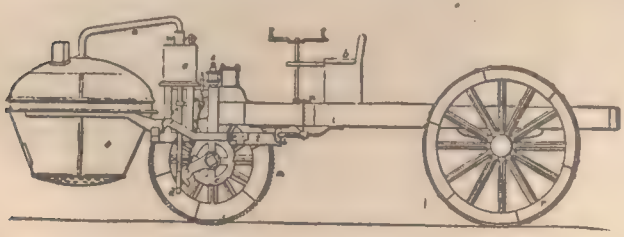
Dramatic it was, but hardly a tribute to the smokestack designers. For more than half a century they had done their best to master the seemingly impossible task of producing a chimney which would insure a strong, steady draft and at the same time trap the elusive sparks and cinders that caused wayside fires and took the pleasure out of railway passenger travel.

But their best was not good enough, and even today, with another three-quarters of a century behind us, engineers admit that there is room for further improvement in front-end design. "Probably no part of the locomotive," says Ralph P. Johnson, chief engineer of the Baldwin Locomotive Works, "has been subject to more experiments and investigations."

THE FIRST ENGINE STACK, or "chimney," as it was called, ever to trace a turbulent exhaust across the sky, was hardly taller than a tea-kettle spout. Riveted to the top of a cauldron-shaped copper boiler, it marked the passage of an amazing military steam carriage through the streets of Paris in 1769.

How much of the smoke was swallowed by Nicholas Joseph Cugnot, the inventor and driver of the weird, three-wheeled contraption, is not known. But the fact that he sat above and directly behind the top of the jet shows an asbestos-like fortitude which served him well when the machine tipped over on its second run. Disgruntled army officials promptly ordered the carriage locked up in a nearby arsenal and the Parisienne atmosphere was clear again.

Then, in 1804, Welsh miners were startled to see a succession of smoke rings proceeding up a rugged glen a score of miles from Cardiff. A Cornish mine captain named Richard Trevithick had just built a little locomotive that was mainly gears and flywheel, to draw iron ore along an undulating, nine-mile plate-way to the smelters at Merthyr Tydvil. Apart from its amazing hauling power (ten tons of bar iron and about seventy passengers were handled on a trial run), the outstanding feature of the engine was its use of exhaust steam to create a draft. Trevithick accomplished this by extending a blast pipe into the base of the chimney, thus laying the foundation for all future front-end arrangements. Not so far-seeing, however, was the placement of the firedoor at the base of the stack, with a single return flue coiling through the boiler.



ASBESTOS skull cap was in order when driving Cugnot's steam carriage of 1769

ALTHOUGH Trevithick's engine was unable to match the economy of horse-drawn operation, and broke so many cast iron rails that it was soon withdrawn

Photo by Paul Eilenberger, Railroad Club of Chicago

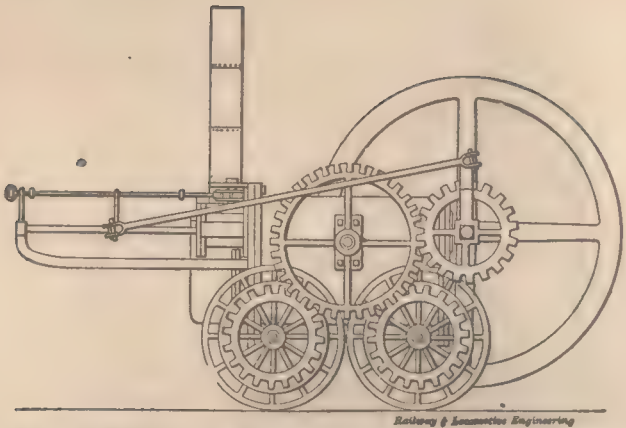
PENNSYLVANIA'S 6100 has swallowed her stacks (yes, she has two of them, one for each set of cylinders). Earlier experimental engine, the 3700, sported four independent chimneys, all grouped in a single housing

from service, it pointed the way for other designers. Nine years later William Hedley, superintendent of a colliery near Newcastle-on-Tyne followed the Cornish inventor in the matter of blast pipes—though for another reason.

In planning his famous *Puffing Billy* he arranged for an independent steam exhaust. But landowners along the tramway which this engine traveled, complained so of her "poisonous" smoke and "fearsome noise" that he bolted an S-shaped muffler to her steam vent to slow down the blasts, and continued the pipe on into the stack in an effort to dilute the smoke and whiten it.

These changes silenced his critics on both scores, and greatly improved the engine's draft—so much so that she now sent showers of sparks in all directions, igniting thatched roofs and haystacks indiscriminately.

Over on this side of the Atlantic more sparks were soon to fly. They highlighted the first American railway excursion, when the Albany & Schenectady's *DeWitt Clinton* chuffed down the line, working steam under a mixed diet of anthracite and



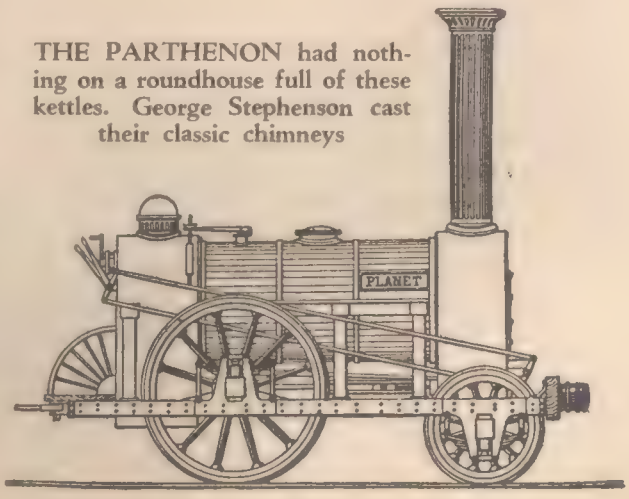
STEM-WINDER of 1803. Cornish inventor Richard Trevithick ran cylinder exhaust into her smokestack to increase draft

A MOMENT BACK we mentioned anthracite. From the very first, motive power men inclined toward the use of coal as a fuel, but inadequate fireboxes and poor drafting served as twin discouragements. Thus, twenty-seven years after Peter Cooper shovelled his first scoopful of black diamonds onto the grates of the vertical-boilered *Tom Thumb* we find the large and prospering Erie making its first experiments with Cumberland fuel. By then the supply of eastern firewood had been so depleted that bituminous was forty-eight per cent cheaper than wood; yet engineers raised strenuous objections to a change-over and complete conversion on the road did not come until 1872.

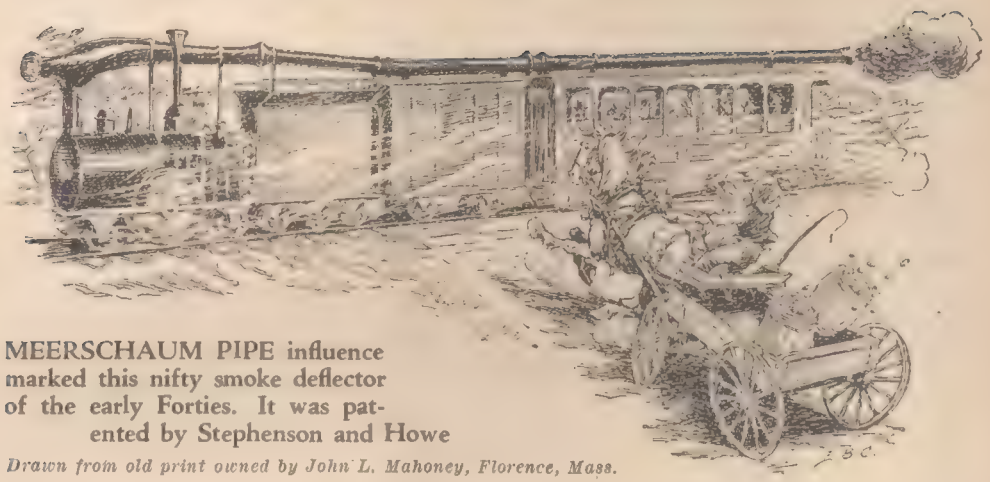
pitch pine. The wood had been added to speed combustion, which it did, both in the firebox and atop the three coach-like cars that jounced precariously along behind the tender. Unchecked by screening of any sort, sparks, coal, cinders and chunks of half-burned pine rained down upon the passengers, filling their eyes and ears, coat-collars, and every crevice of their clothing. Those who carried umbrellas raised them to ward off the fiery missiles, but they, too, caught fire. "The stamping and flaying of arms and shouting," wrote a spectator of the day, "soon reached panic intensity and many thought of jumping before the engineer, seeing the state of things, stopped by a wayside tank where flaming garments were drenched with water. Many a pleasure-seeker had painful reason to remember his first ride on a railroad train."

The stack had become a major problem.

Meanwhile the stack had grown from a tall, slim cylinder into a veritable horn of plenty. It was George Stephenson who first put a flair on the rim. His *Experiment*, built in 1826, had a modest, tapered



THE PARTHENON had nothing on a roundhouse full of these kettles. George Stephenson cast their classic chimneys



MEERSCHAUM PIPE influence marked this nifty smoke deflector of the early Forties. It was patented by Stephenson and Howe

Drawn from old print owned by John L. Mahoney, Florence, Mass.

lip of a type which was destined to become standard on both sides of the Atlantic. It reached its flower and fruit with the coming of the *Planet* class, whose chimneys were contorted into reasonable facsimiles of Grecian columns through the use of vertical flutings and beaded caps. They were as tall as road clearances would allow and, in at least one instance, higher. That was the stack of the Leicester & Swannington's *Comet,* whose thirteen feet of riveted magnificence collapsed as the little engine galloped into Glenfield Tunnel on a maiden run of May 5th, 1832.

MATTHIAS BALDWIN'S spark arrester

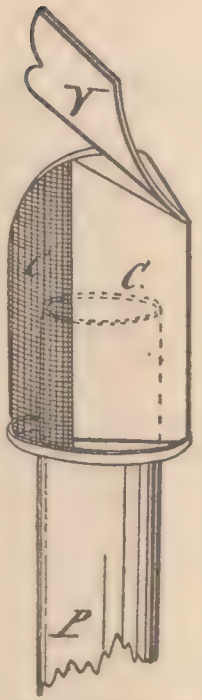
Such an accident could not have occurred, we are pleased to note, under a neat little patent filed later by Colonel Long, president of the American Steam Carriage Company of Philadelphia. In designing the hard-coal burning *Black Hawk,* the Colonel gave her the high chimney necessary to burn such fuel under natural draft, hinging it at the center so that it could be hauled down when passing under bridges. Later he went all out for a telescopic stack.

The English enginebuilder did, however, take steps to meet another source of danger: HEAT. Both chimneys and smokeboxes, he noted, were quickly destroyed by the roaring breath of the exhaust. Scientific methods were not available to determine its temperature so Stephenson resorted to a simple series of experiments with various metals. First he placed a lump of tin in a conical iron cup suspended in the smokebox, and found that it disappeared almost instantly. Next, lead was tried with the same result. Zinc, too, was driven off in vapor, indicating a tremendous waste of heat. To overcome the evil it was decided to lengthen the boilers of future locomotives and extend the tubes a matter of four or five feet. This reduced the temperature at the stack from

at least 773 degrees (the vaporing point of zinc) to around 442 degrees, or just enough to melt the corners of a block of tin.

MEANWHILE Matthias Baldwin had taken steps to end the spark nuisance. In 1831 we find him broadening a smokestack at its top and capping a cross section of maximum diameter. By doing this he believed that the screen would not constrict the draft.

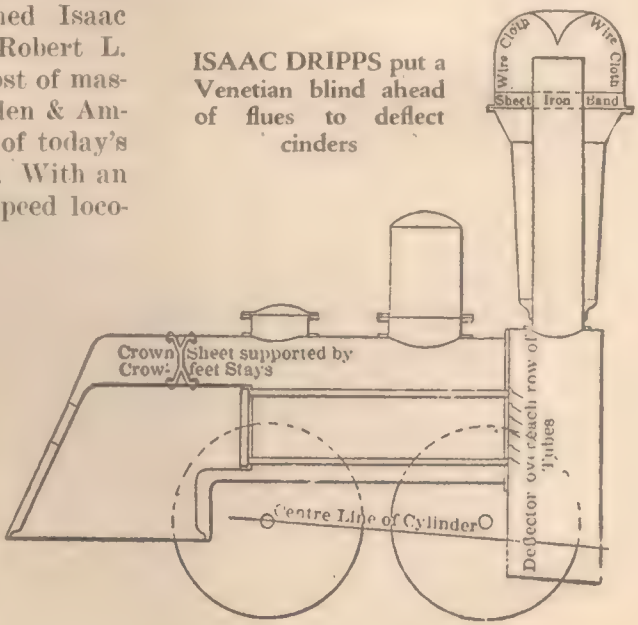
Soon afterward a mechanical genius named James P. Espy bobbed up with a revolving chimney top having a mesh-covered vent and a vane to keep it facing out of the wind. The Philadelphia & Germantown Railroad gave it a brief trial but remained unimpressed.



WEATHERVANE STACK threw sparks to rear

Later, in New Jersey, a young steamboat machinist named Isaac Dripps was engaged by Robert L. Stevens to take over the post of master mechanic for the Camden & Amboy Railroad, predecessor of today's vast Pennsylvania System. With an eye to developing a high-speed locomotive for the nearly level territory which his line traversed, Stevens adopted the Crampton type, which was distinguished by a single pair of very high driving wheels.

Isaac Dripps designed a number of these curious engines, almost each of which had a different stack arrangement. One was capped by an elbow which could be turned out of the wind by means of a handle. Another, the *John Stevens,* sported a thin, cone-shaped cinder slide in the center of which was placed the actual chimney. A curved plate or "bonnet" stood directly above the latter, so that the exhaust was split at its center and deflected outward and downward. At the same time this bonnet broke up hot cinders and dropped them, either into the slide, or back to the bottom of the stack, from which point they were hurled upward again to be shattered into even finer particles. Dripps further arrested the escape of sparks by placing an assembly of deflection plates resembling a Vene-



ISAAC DRIPPS put a Venetian blind ahead of flues to deflect cinders

tian blind in the smokebox, just ahead of the forward flue sheet. It had a downward-slanting blade above each row of tubes.

As might have been expected, these plates impeded drafting, but the stack itself can rightfully be considered the grand-daddy of all later woodburning chimneys of the balloon and sunflower designs. True, a few rugged individualists broke away from the basic pattern; among them James Millholland, who placed an ungainly cone at the top of a straight stack, and arranged a bonnet within it to throw solid matter forward and then downward through a cylindrical slide. The cone, itself, could be raised or lowered to produce a variable exhaust. Applied to the Philadelphia & Reading's *Pawnee* class, its failure to perform satisfactorily was equalled only by its ugly appearance.

ABOVE: Spark-arresting stack on Boston, Lowell & Nashua's *Eagle*. BELOW: Dripps' stack was first to have outside cinder slide

OTHER INVENTORS provided curious ways of trapping sparks and dropping them, either into a water tank to be quenched out of all evil doing, or back into the firebox, where they rightfully belonged. In most cases, any good which might have come from the device was more than offset by the strangulation of a natural draft. One huge and ungainly chimney used on a number of western roads made for such poor steaming that enginemen called it an "ice freezer." It might be added that whenever an engine so equipped jumped the rails, the heavy projectile came crashing to earth, bowling over anyone who happened to be in the way.

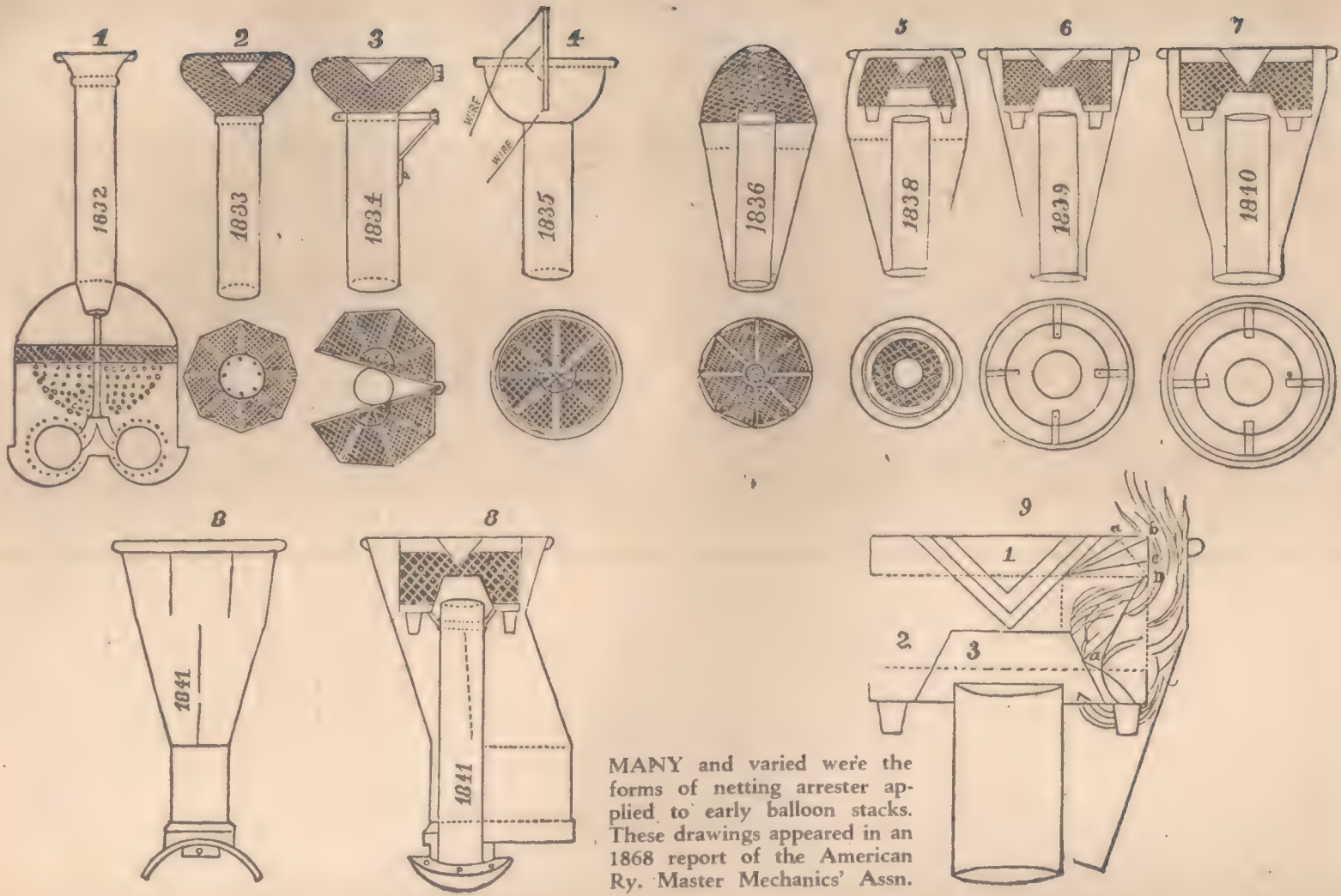
The story is told of an old German hogger who drew another chimney design on a trial run. He came back looking glum.

"How did she go?" asked the patentee, an ambitious young master mechanic.

"Vell, shur," the engineer replied, "she vent all de vay rount, but dere iss von change vould improve dot schtach. If you durn him upside down he do bedder, for like he is now all de draft gose down"

Spark arresters were not, however, the only source of strangulation. The Galena & Chicago Union Railroad, for example, placed a large feedwater heater in an engine stack around 1855. The locomotive was the famous old *Pioneer,* built nineteen years earlier for the Utica & Schenectady Railroad.

Naturally a test was in order and when the engine had been readied, inventor Peter Ebbert, a roundhouse foreman, ran her the one hundred and ten miles between Chicago and Sterling. Thanks to the cork-like presence of the feedwater heater it was a memorable trip. At five-mile



MANY and varied were the forms of netting arrester applied to early balloon stacks. These drawings appeared in an 1868 report of the American Ry. Master Mechanics' Assn.

RIGHT: Old pig-tail spark-arrester found at foot of Mt. Si, near Ellisville, Wash. It came from a logging engine

BELOW: Twelve-foot cinder slide—a familiar feature of Colorado & Southern narrow-gage power

Upper photo by E. J. Roberts, 3903 S. Tyler St., Tacoma, Wash.

intervals the little mill died for want of steam and it was well toward evening of the second afternoon before she whistled her arrival to a smirking delegation of Sterling motive power men. Ebbert climbed stiffly to the ground and shook hands with a local foreman named Burgess.

"A splendid run!" he said, enthusiastically. "Too bad I can't wait to take the engine back to Chicago. You might enjoy trying it, though."

Burgess did—after first removing the feedwater heater and whittling down the stack.

RETURNING to the subject of coal burners, we have seen how the inadaptability of the balloon stack to this fuel discouraged and delayed its use. As late as 1850 the celebrated engineer D. K. Clark said of the problem: "Coal ought not to be used as a staple (locomotive) fuel at all."

Where modifications of chimney design were attempted they usually took the form of a sheet-iron cover with a small, screened opening at its center. Then George S. Griggs, first master mechanic of the Boston & Providence, hit upon a simple arrangement whose merits were so apparent that it was adopted by railroad after railroad. Probably no other drafting appliance ever achieved such widespread popularity.

The "diamond" stack, as it was named, used two truncated cones, placed base to base in such a manner that cinders and sparks were thor-

oughly battered and pulverized against its sloping walls before their release through a coarse screen to the atmosphere.

Nevertheless there was a growing conviction that the stack was a poor place in which to trap solid matter. An unscreened or "open" stack, for example, actually reduced the fire menace of small sparks, for it allowed them to travel higher and thus extinguish themselves in mid-air. Too, it reduced the annoyance of low-trailing smoke.

Where could the larger cinders be intercepted? The obvious answer was in that area directly beneath the stack and ahead of the boiler flues—the smokebox.

You will recall that Isaac Dripps placed deflectors in front of the fire-tubes. Other inventors planted sloping screens at the base of the stack and extended the smokebox forward to hold a fiery residue. In 1883 we find a retired banker named Groesbeck applying himself to the problem as a hobby. Reverting to the water-tank system of extinguishing sparks, he placed a shallow reservoir directly under the smokebox, with a deflecting screen above it.

In his thoroughly personalized *Development of the Locomotive Engine,* Angus Sinclair says of the device: "I have ridden the cab of an engine equipped with the spark extinguisher, pulling a heavy freight train and working very hard. It was at night, yet not a spark was to be seen issuing from the stack."

Apparently motive power departments were not quite so deeply impressed. For lengthy reports on front-end design began to appear with more and more frequency. Chicago & Northwestern's Robert Quagle wrote an exhaustive 86-page treatise on the subject in 1896 and ten years later Professor Goss, of Purdue University, uncovered some significant facts upon which present-

Photo by Sgt. Alfred Rose, U. S. Army

LUCKILY, wind resistance is no factor with a Shay engine. Modera Sugar Pine Company operated this wood burner

day locomotive drafting is largely based.

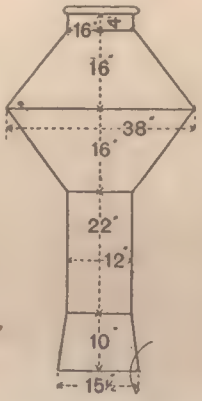
Boiled down to essentials here is the sum and substance of his report:

Combustion is nothing more than the process of combining the carbon and hydrogen of fuel with the oxygen in the air. To accomplish this union properly, high temperatures are necessary and for complete combustion there must be plenty of air: In a locomotive, then, the right amount of draft is of great importance.

Theoretically one hundred and fifty cubic feet of atmosphere is needed to burn one pound of coal. In actual practice, however, two hundred cubic feet is nearer the figure. (Today it is not uncommon for an engine to consume one hundred and fifty pounds of coal per square foot of grate area per hour. Thus a 4-8-4 with a grate area of seventy square feet will burn five and one-eighth tons each sixty minutes. This means that over two million cubic feet of air must pass through the firebox and out of the stack—or thirty-five thousand cubic feet a minute!)

Photo by C. Mizell, Box 423, Manatee, Fla.

TRUE DIAMOND STACK on Manatee Crate Company Mogul



GRIGGS' original diamond stack

HOW can air as such cyclonic velocity be obtained? When Peter Cooper built his anthracite-burning *Tom Thumb,* he placed a small blower at the base of the firebox. Since then a number of attempts had been made to step up the passage of gasses by means of turbo-driven exhaust fans located in the front end. But they never proved successful, principally due to the heavy cost of maintaining moving machinery subjected to high temperatures and to a steady bombardment by abrasive cinders.

Rather it was the jet principle, established by Richard Trevithick when he ran blast pipes into the stack of his mine engine, which provided the solution. By delivering the kinetic energy of the exhaust to surrounding gasses, they carried them to the atmosphere at an extremely high rate of speed.

The Purdue tests determined stack proportions and established ratios between front end plate arrangements and flue-opening areas. The offshoot of these findings, known as the Master Mechanics Front End design, combined effective spark control with an exhaust retardation of approximately seven per cent. While this figure was still far from ideal, it represented a marked improvement over previous performance.

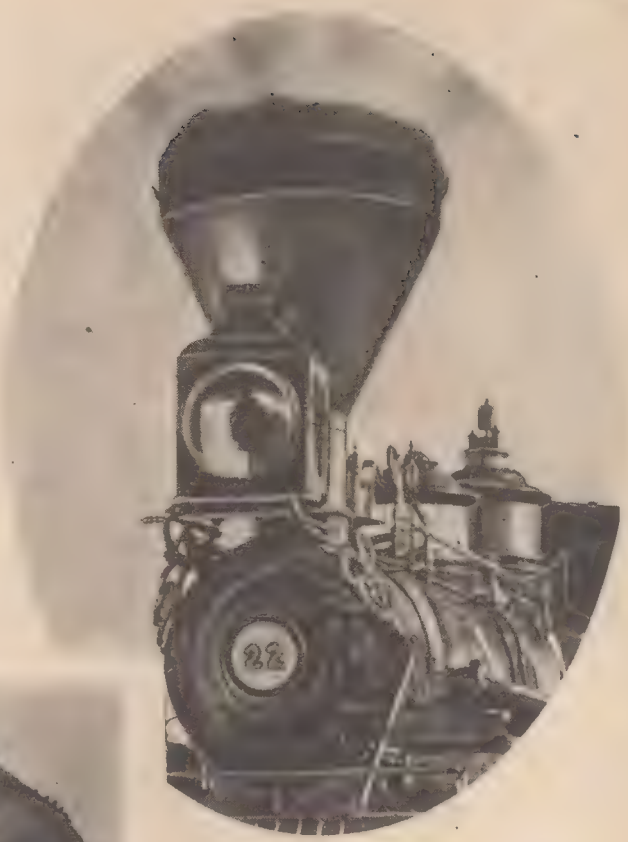
If we could look through a glass window and watch such a smokebox

in action we would see a barrage of unburned or partially consumed coal (it may run as high as fifteen per cent of the fuel fed into the firebox) emerging from the flues and tubes, to dip sharply under a table plate and around the exhaust base. With the escaping gasses they pass the adjustable draft sheet and flow toward the stack, where they contact a sloping screen. Striking it with great force they tumble back toward the base of the smokebox where they are again caught in the draft and the process is repeated. This goes on until the solid matter is so reduced in size that it can slip through the netting. By now there is little fire hazard left in the battered cinders.

During the course of his tests, Goss accumulated some interesting information on sparks. Placing pans lined with paraffine, cotton fleece and dry grass at specified distances from main-line trackage, he watched the effect of sparks of varying sizes and temperatures upon them. Those larger than one quarter of an inch, heated to 1400 degrees, could start fires when conditions were ideal, and a cinder at a temperature of from 1000 to 1400 degrees was a menace only when five-eighths of an inch in size or larger.

How high did engine sparks travel after they left the stack? Unlike the still air above a fixed source of heat, the atmosphere in the region of locomotive exhaust is in a constant state

Photo from Otto C. Perry



FOUR outstanding smokestack designs. Left to right: Cap-stack (decorations were for a presidential special); sunflower stack on old Rogers engine of an unknown road; cabbage-head stack with cast center section; modified balloon stack

of turmoil. Thus there is nothing to buoy up the sparks except the initial velocity of the exhaust. During tests on the Big Four, transits were set up and the elevation of the glowing coals computed. The maximum height recorded was one hundred and seventy feet.

It was also discovered that regardless of the velocity of the wind, very few sparks or cinders were carried far from the right-of-way. The reason for this was that a moving train creates a partial vacuum at its rear. Air rushing in to fill the void draws along, not only the smoke, but the solid matter in the exhaust. Thus ninety-eight per cent of all the sparks discharged were found to land in a zone not more than one hundred feet from the track. What fell beyond was nothing more than fine particles or dust.

EXPERIMENTATION did not end with the termination of the Goss tests. For below the stack is the exhaust nozzle, or "tip," which spumes the cylinder exhaust upward and into the petticoat pipe or flare at the base of the stack. Early tips

Photo by John P. Chenoweth, Box 1256, Charleston, W. Va.

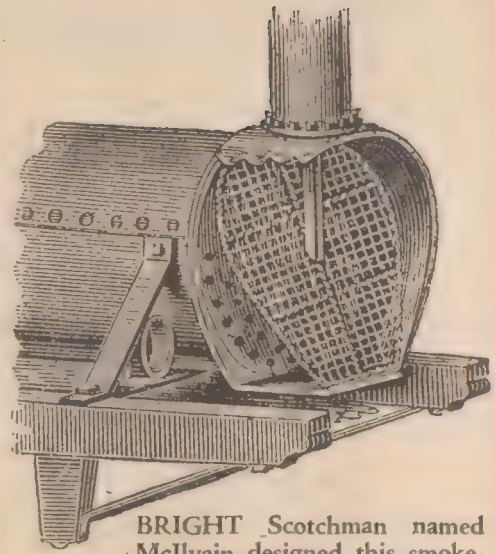
PENNSYLVANIA cap stacker 452 leaving Indianapolis Union Station for Chicago in June, 1894. Pat Graner was engineer

had been circular in form, with little thought of their relation to stack placement, size, or taper. But any shopman knew that a change in the ratio produced drastic changes in engine performance—sometimes beneficial; at others, detrimental.

True, it was already conceded that a certain tip size worked best with a given cylinder diameter. But experiments at the University of Illinois showed that a nozzle having an irregular lip to increase its perimeter was far superior to the circular form of jet.

As important as the design of the tip was its alignment with the stack. Instead of placing both on the same center line, designers moved the nozzle slightly in the direction of the stream of air passing through the netting. This overcame the effect of the horizontal blast but if the offset was too great the performance collapsed and the front end filled with steam, reducing the air flow as much as thirty percent. In this line it is interesting to note that in building its Y-6 Mallet engines Norfolk & Western was able to use certain front end castings from earlier classes by slanting nozzles and smokestacks forward. Unusual care was used in aligning the tips but the result has been entirely satisfactory.

All railroads recognize the importance not only of lining nozzles up but of checking their position frequently. So if you ever see a nut-splitter shaking confetti into a locomotive stack, don't look in the cab for a bride and groom. He's simply using a time-honored method of checking the exhaust stream. If the tip is out of tram the paper will dance around the edge of the chimney and in bad cases it may actually be drawn down by a counterflow of

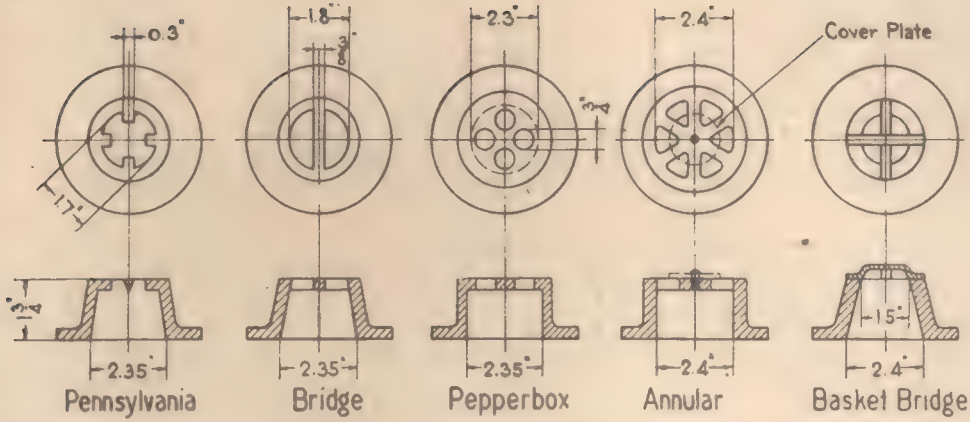


BRIGHT Scotchman named McIlvain designed this smokebox spark arrester in 1833

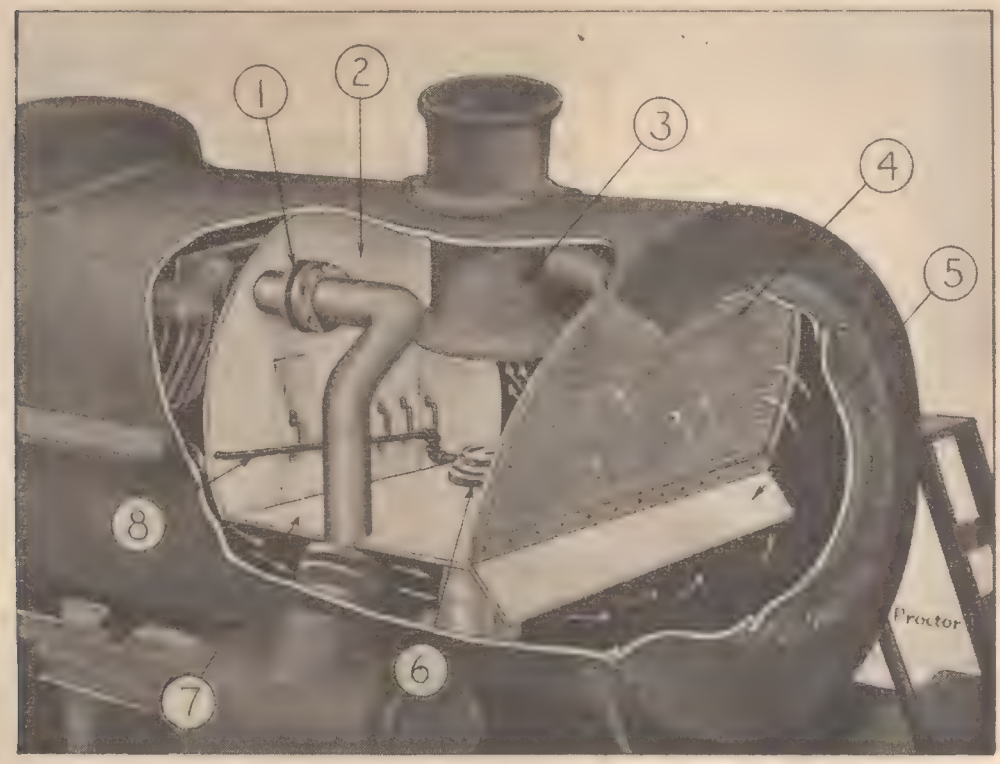
air, indicating unsatisfactory performance.

WHILE a two-cylindered engine, pouring its breath into a single nozzle may set up cross currents which create back pressure the problem has been pretty much elminated through the use of scientifically designed tips, the multi-cylindered engine creates a more complicated condition. Here we have an exhaust which is less synchronous, since both engines work independently. One minute we may have a forward and rear cylinder venting steam simultaneously, at another the exhausts are half a revolution apart. Some roads simply pour both sets of blasts into combination pipes, others direct them to independent nozzle ports. A third school favors twin stacks placed one behind the other. Sometimes these are clearly identified; in other instances, two chimneys may be concealed in a single casting.

Back in 1919 the Pennsylvania went the latter arrangement two bet-



EXHAUST NOZZLES play a vital part in engine performance and nearly every motive power man has had a fling at designing one. Bridges, multiple ports, and irregularities of outline are used to increase the nozzle perimeter which, in turn, has the effect of reducing back pressure—sometimes as much as 12 percent—over circular nozzles of the same discharge capacity



CUTAWAY VIEW of master mechanics front end. 1—steam pipe, 2—diaphragm, 3—smoke stack extension, 4—deflector screen, 5—diaphragm apron, 6—exhaust nozzle, 7—table plate, 8—blower steam pipe

ter by using four stacks in one huge, squat drum. The engine was an experimental 2-8-8-0 having four high-pressure cylinders. It was believed that minimum power pressure would result from the quadruple exhaust but whether or not that proved to be the case, the fact remains that the design was never duplicated.

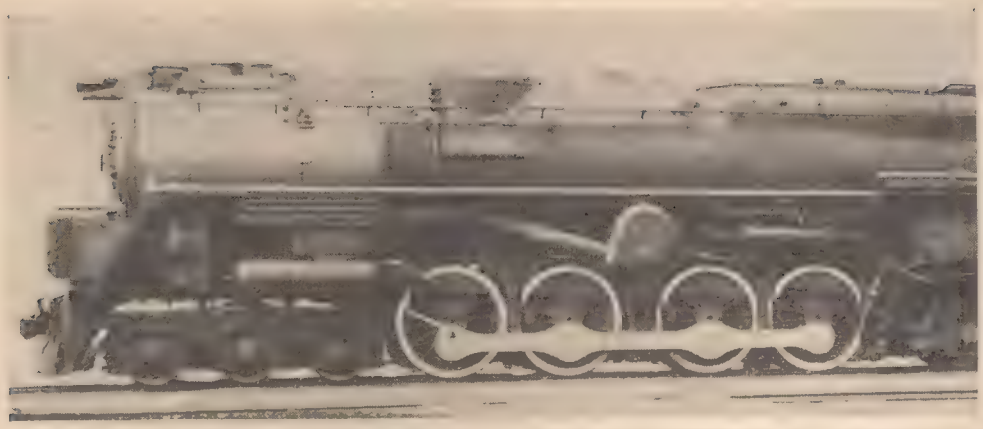
Auxiliary stacks, too, have their place in American engine design. Baldwin put them on the tenders of its triplex engines to carry off steam from the third set of cylinders after it had passed through a primitive feedwater heater. Much later these tank-stacks became a standard feature of engines equipped with Bethlehem boosters. On other roads you will find a slim little chimney shooting its white exhaust skyward just ahead of the regular stack as a boostered giant gets underway.

Photo by Henry R. Griffiths, 1316 River St., Boise, Idaho

CALLED by any other name the Union Pacific's ***Portland Rose*** would smell no sweeter. Black plume indicates poor combustion

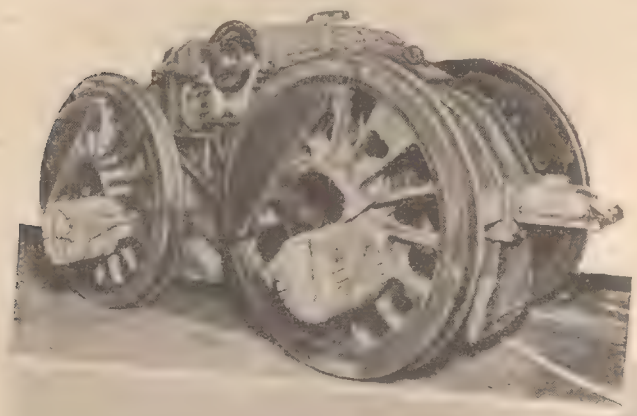
YES, the smokestack has undergone a strange metamorphosis in more than one hundred years of railroading. Contrary to general opinion it hasn't shrunk in height; it's just been swallowed by the ever-growing boiler. So little remains above the smokebox top, today, that an engine crew's view of the rails ahead may be completely hidden by the pall of fog which curls along the barrel.

Now we are beginning to see a weird assortment of sheet iron aprons, wings and sluices designed with the common object of raising the exhaust and dropping it far to the rear of the cab. Some of them are ugly; others actually improve the appearance of the newer streamlined power. But whether we like them or not these smoke-lifters are here to stay—disguising still further the thundering engine stack. And as we go to press, comes word that the exhaust, itself, is in for a whitewashing if a new firebax jet sponsored by the L&N proves successful. But that's part of another story, the problem of fuel combustion.

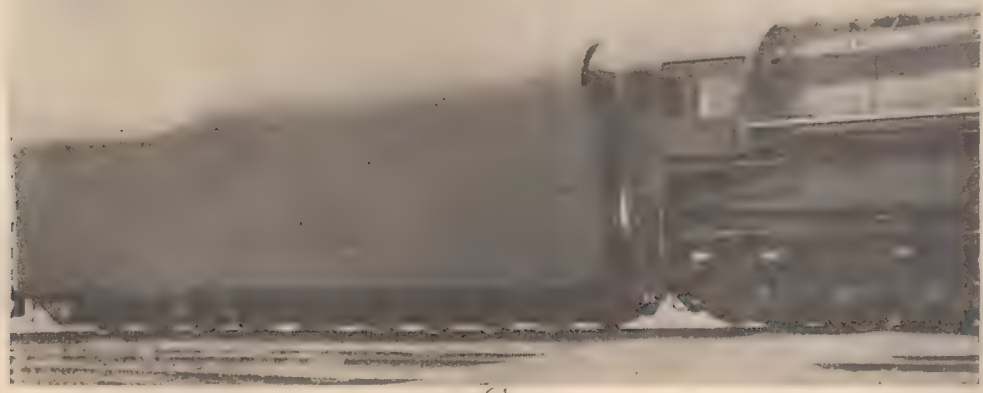


Locomotive of the Month:

BELOW: Main drivers and gearbox of the PRR's 6200, designated Class S-2

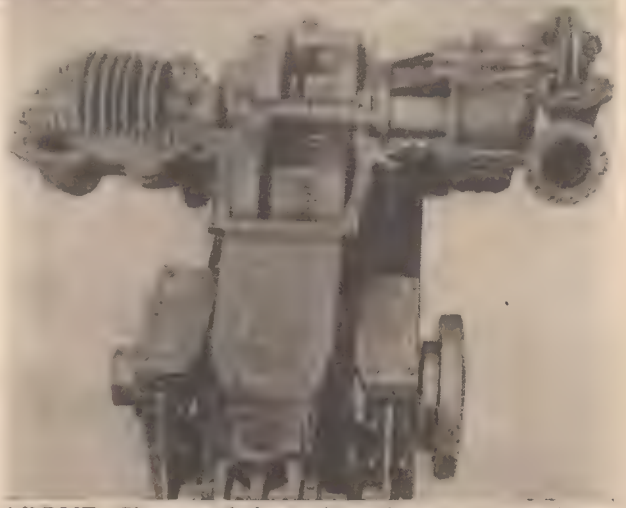


BALDWIN - WESTINGHOUSE sponsored, the steam-turbine locomotive pictured here is now undergoing exhaustive tests on the Pennsylvania Railroad. Its specifications have not yet been released, but the mechanical principle shows clearly in the two detail photographs. Note transverse position of turbine shafts which apply power to second and third driving

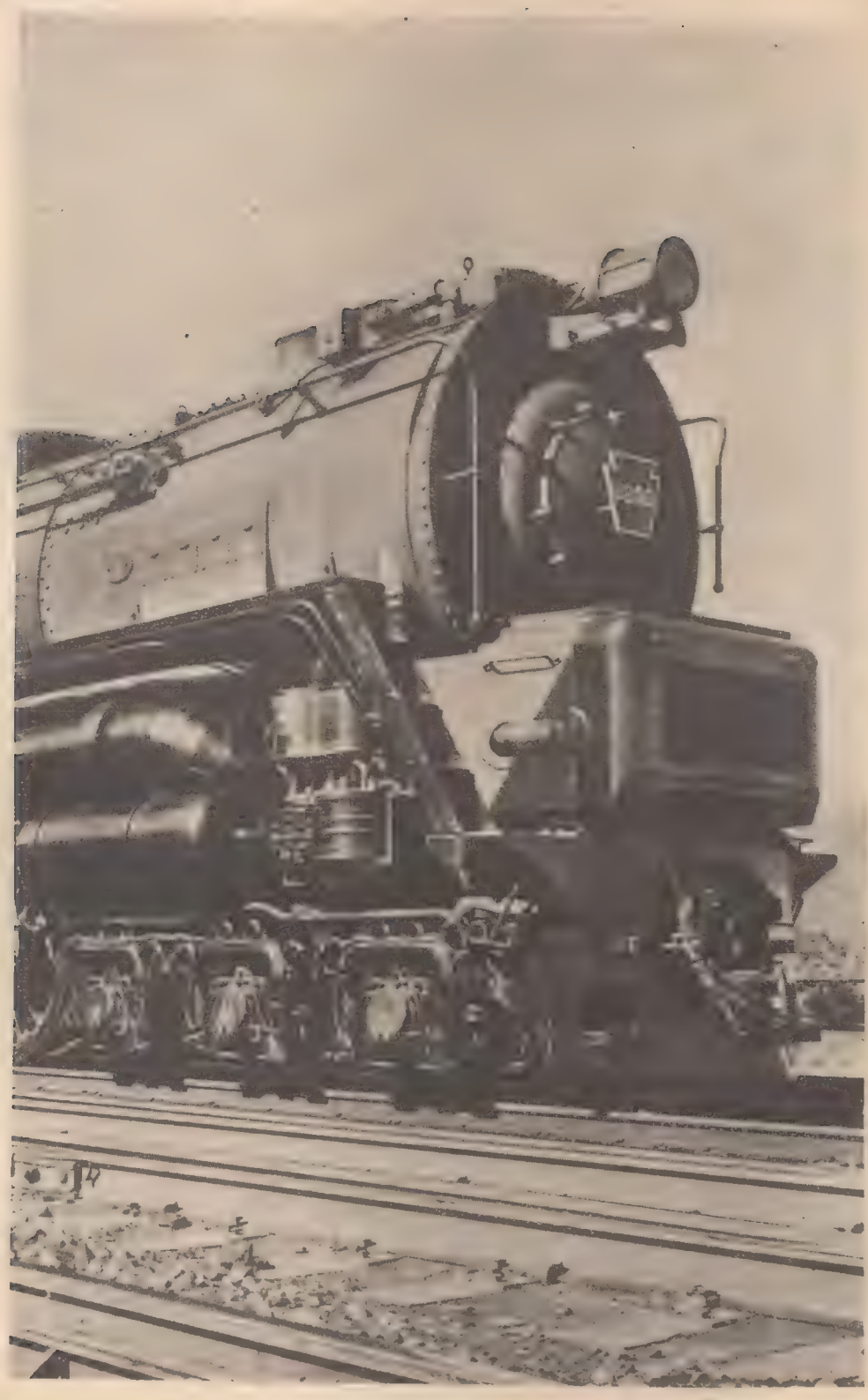


PRR 6200

axles through herringbone- and spur-gear reduction. Multi-disc turbine on left (right side of engine) is for forward motion. Two-disc turbine, at right, handles back-up moves. The locomotive appears in full PRR livery on the next two pages. As yet unexplained: Waste of 15 lbs. steam pressure at exhaust and rate of acceleration (gear-reduced turbines are sluggish starters)



ABOVE: Closeup of the turbine drive, with top housing removed. For model plans of the 6200 see pages 124-127



Light of the Lantern

The Information Booth

EACH month the Lantern Department prints answers to rail questions of general interest, submitted by our readers. We do not send replies by mail.

1

WHAT *is the longest sustained railroad grade in the United States?*

Needles, California, to Seligman, Arizona; 149.7 miles; on the main stem of the Santa Fe. Line elevation at the former point is 476 feet; at Seligman, 5,234 feet. The ruling grade is 1.5 percent. It might be added that this constitutes the longest steam helper district in the country.

2

HOW *many switches would you find in a large railroad yard?*

Sorta vague kinda question, wouldn't you say? Anyway, here's a specific answer: Chesapeake & Ohio's Russell (Kentucky)

Lehigh & New England

LITTLE GIANT among freight haulers is the Lehigh & New England Railroad, whose one hundred and twenty-seven miles of operated main line, including thirty-five miles of trackage rights over the New York, Susquehanna & Western and Erie railroads furnish an important outlet for eastern Pennsylvania anthracite, cement, slate, and other important war shipments, via connection with the New Haven Road at Campbell Hall, N. Y. In addition to the main line between that point and Hauto, Pa., there are important feeder spurs totalling fifty-nine miles.

During the first nine months of last year the road handled nearly nine million tons of bulk commodities and manufacturies, of which coal constituted by far the greatest amount (85.8 per cent).

TOP: L&NE coal extra crosses Lehigh River Gap. BOTTOM: Spotting empties at Lehigh Coal & Navigation Company's Tamaqua colliery

Yard, whose 9300-car capacity makes it the largest terminal operated by one road, had 422 switches at last count.

3

I HAVE HEARD *that the hammering action set up by the driving wheels of a steam locomotive is hardest on the right-hand running rail. Tell why.*

Two reasons have been offered. The first is that a sharper blow may be imposed upon the track-structure by those wheels having crank lead (right lead is almost universal in the United States); the other, that the softer, shoulder ballast beneath the right rail, in the case of double track, sets up vertical oscillations. Of the two theories, the latter seems the more probable.

4

WHAT *is meant by a "six-degree curve?"*

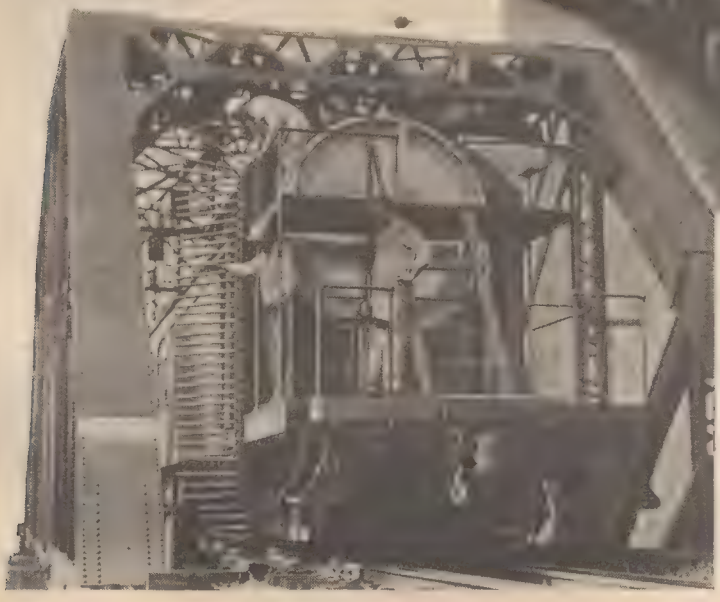
A six-degree curve is one in which two radii (A and B), projected to the inside rail of a curve at points one hundred feet apart (chord distance), produce a six-degree central angle. Thus the smaller the circle (or more sharp the curve) the greater the number of degrees.

For purposes of computation, the distance from the center of a 62-foot chord to the curve which it subtends, measured in inches, is approximately equal to the degree of curvature.

5

WHEN *was the first solid-vestibuled train introduced in this country and how long was it before closed vestibules were designed to extend the full width of cars?*

Railway Review of April 16th, 1887, states that the Pullman Company had just completed an all-vestibuled train for the Pennsylvania, consisting of three sleepers, one diner, and a combination baggage and smoker car.



NEW YORK CENTRAL checks clearance with its porcupine car. Top photo shows her dropping down to New River Canyon near Meadow Creek, W. Va., on foreign trackage (note Chesapeake & Ohio caboose). The engine is NYC's articulated 1939. AT LEFT: Adjusting clearance fingers on bridge 30.21, Danville Branch

Print from Railroad Photographic Club

Photo by Robert C. Schell, Jr., 322 E. Beardsley Ave., Elkhart, Ind.

CENTIPEDE TENDER. New 4-10-0 type pedestal job applied to New York Central. She carries 43 tons of coal—or enough for a run between New York and Chicago. Water is limited to 17,500 gallons, for the tank can be replenished from track pans in transit

"The trial trip was a success in every way," the engineering publication reported. "Although the train was run at a high rate of speed, it was evident that the cars were held very firmly together by the springs at the top of the vestibules, and that there was much less jarring and swaying than is usual, even on a very level track."

In 1893 the design of vestibules was altered, through the use of traps, to enclose the entire platform.

6

DESCRIBE *the engine used by the Pennsylvania Railroad to establish a world's record of 127.1 miles per hour, with the Pennsylvania Special, back in 1905.*

She was Number 7002; Class E-2. Specifications included 80-inch drivers, 20½x26-inch cylinders, 205 pounds' boiler pressure, and 176,000 pounds' engine weight. The train consisted of four cars, with an aggregate weight, including locomotive and tender, of 786,100 pounds.

7

GIVE *history of the old-time locomotive exhibited outside the Duluth, Missabe & Iron Range depot at Two Harbors.*

This engine, bearing the number *3*, is a Mogul, built by Baldwin for the Duluth & Iron Range, in 1883. Delivered at Agate Bay, her first job was that of hauling supplies for construction work. Five years later she was sold to a lumber road, the Duluth & Northern Minnesota. In 1923, D&IR Thirty-year Veteran's Association bought her back, restored the old girl to her original appearance, and arranged for a permanent display site at Two Harbors.

8

WHY *have streamlined car designers reverted to the use of four-wheel trucks? I have had reason to note the superior riding quality of twelve-wheel cars sandwiched into the newer trains.*

TAKE A LOAD OFF YOUR FEET. Espee cab-in-fronter is lifted bodily from her wheels and carried away to steel blocking stands while her running gear is overhauled. Scene is at Sparks, Nevada, erecting shop

In theory, the number of wheels under a car should not affect its riding quality, and is determined only by the amount of car weight, divided by the safe load limit, per axle.

In fact, however, we know that the six-wheel truck can be equalized and sprung to produce a smoother riding unit. Offsetting this advantage are two factors: greater manufacturing cost and maintenance, and increased resistance. In a test some years ago, it was found that thirteen cars with six-wheel trucks offered the same retarding force as fourteen cars with four-wheel trucks.

9

WHEN *was New York Central-Lake Shore & Michigan Southern's Fast Mail inaugurated, and what was her scheduled time between New York and Chicago?*

This white and buff flyer began running in 1875 and her time between terminals was just over twenty-seven hours.

10

WHAT *is the longest engine run on the Milwaukee?*

Between St. Paul, Minnesota, and Harlowton, Montana, 915 miles. Hudson types regularly handle the *Olympian* on this tough assignment.

11

WHAT are the prospects for streamlined passenger service in the Pacific Northwest after the war?

This question crops up periodically and it's a pleasure to have a new answer at last. For Great Northern has just announced the placement of an order for five Diesel-powered streamlined trains, to go into service as a rejuvenated *Empire Builder* as soon as delivery will permit. Equipment will consist of ultra-modern coaches, sleepers, diners and lounge-observation cars, built by Pullman-Standard and hauled by two-unit Electro-Motive Corporation locomotives. The existing schedule of the *Empire Builder* between Chicago and Seattle is expected to be materially quickened.

Whether the Milwaukee Road and the Northern Pacific will let this development go unchallenged remains to be seen.

BELOW: Biggest power on the Canadian Pacific are 2-10-4s used in freight service. The 5919 is of the T-1a. Class; weighs 452,500 pounds

Photo by Ernie Plant, Vancouver, B. C., Canada

Why the Train Was Late

MacIntosh Pulled a Legal Trick to Collect Five Thousand Dollars from the Grand Trunk

By WATSON B. BERRY

THE LEGAL HOLD-UP, back in the '90s, of a Montreal-bound excursion train carrying five hundred passengers was just another chapter in the saga of Ian MacIntosh, a "North Country" barrister of upper New York State who was famed for settling cases out of court.

It all began with State Senator X, an outstanding politician. When the Senator died the records of his estate were confused and incomplete. His law practice had yielded big fees, but these had been pretty well used up by his political expenses and luxurious tastes. The documents displayed an original and unsystematic method of book-keeping. Among them were notations in the docket of the deceased covering his five years in the Senate. At the beginning of each year he had written the single entry, "Retained by the Grand Trunk." That was all. Nothing to indicate the amount to be charged or the nature of service, if any, rendered to the railway — and no hint as to whether or not the alleged service had been paid for. It was a fair sample of the Senator's book-keeping.

WATSON B. BERRY

Now, while Mr. X's creditors are clamoring for money and MacIntosh is trying to put the estate on a sound basis, let us turn our attention for a moment to the Grand Trunk itself. This road had a branch from Montreal, Canada, to Massena, N. Y., the latter point being also the New York Central's Rome, Watertown & Ogdensburg Division. This branch handled a large amount of freight to and from eastern Canada; but its regular passenger service was limited to one train a day in each direction, a two-hour run. During the summer months, the passenger business was augmented by a number of special excursion trains, chartered mostly by school or fraternal groups. The trip was popular because it was cheap and allowed a full day of sight-seeing and shopping in the Canadian metropolis.

It was generally understood that a lot of petty smuggling of woolen goods and whisky was done on these excursions. United States customs officials at the border, being North Countrymen themselves, were complaisant in such cases. This sidelight on some Grand Trunk excursions of the 1890s probably had nothing to do with the reason why Senator X was retained by that company; it is mentioned here merely to assist in laying the moral background for events which followed.

Thus we get back to the Senator's estate. MacIntosh's attempts to collect from the Grand Trunk met with a cold resistance. Assuming that the railway had not paid the Senator, he first tried conventional methods of collection, politely recalling Mr. X's retainer and fixing a valuation of five thousand dollars for the five years. A chilly reply from the road's General Counsel, something in the nature of an annoyed lifting of the eyebrows, acknowledged receipt of the demand and concluded:

"Consultation with our clients and an examination of our records disclose no basis for this claim, which, in the absence

THE EXCURSIONISTS piled out of the train and stood around in small groups

of satisfactory supporting evidence, we must respectfully decline to entertain."

Mac showed the letter to Wat Banks, his student clerk and shadow; and Banks commented: "It looks as if they have no intention of paying."

"We'll see about that," Mac replied.

The two men went over the situation. Both agreed that the Senator would not have written what he did in his docket unless the railway had retained him.

"The old General Counsel of the Grand Trunk is dead," the attorney said, "and the bunch of Englishmen now running the show could not imagine a lawyer being retained without formality and much recording of the fact."

In those days it was not uncommon for lawyer-legislators to be "retained" by corporations. This practice, while open to objection on ethical grounds, was well within the law.

"If we have to bring this case to trial," Mac went on, "I am positive that a North Country jury would believe in the Senator's retainer, and the only real question to be decided would be the value of such a retainer. Surely, a thousand dollars a year is small enough—that's why I asked for five thousand."

"But you don't want a lawsuit, do you?" Banks injected.

"No, Wat, we don't. There might be unpleasant implications. The road is a foreign corporation. Therefore, when we begin action we are entitled to a writ of attachment. That is the law. We'll grab something that will tie up traffic on a Saturday, when it will be impossible for them to give security for vacating the attachment. I fancy that will bring them to time and effect a quick settlement." Mac's

eyes had a crafty gleam. "We'll slap a writ on the locomotive of the Woodmen's excursion next Saturday just before she is due to leave. That'll raise a rumpus."

BANKS grinned and set about drawing up the necessary papers for his boss. Later he called on Sheriff Timmins with a warrant instructing him to take possession of the engine, specifying the date and time. Physically, the sheriff was a big and imposing man, but this front hid a timid soul.

"I don't like the idea, Banks," he demurred. "Why, I never heard of such a thing before. I've attached plenty of grocery stores and sawmills — never a locomotive. And besides, there is U. S. mail on that train. I don't want any trouble with the Federal people."

Mac's understudy sized up his man. He decided that intimidation plus an appeal to greed would pull the trick. So he said:

"Cut that out, Timmins! You know MacIntosh. He had one sheriff removed from office a few years back, as you are well aware, because he hesitated about doing his duty. You've got to climb into that engine cab, serve the warrant on Wes Stebbins, the engineer, take possession, and make him run her onto a siding. There'll be fireworks and a lot of cussing, and Pete Lewis, the Massena station agent, will burn up the wires to Montreal. Meantime, you're hanging onto the engine till I give you word to let her go. That'll be when the Grand Trunk crashes through with the money. I predict that you will go home with five thousand dollars cash in your pockets and your full fees."

Sheriff Timmins finally agreed. When Saturday rolled around, the excursion train, twelve cars in length, began to fill up with holiday-seeking Woodmen and their friends. The lodge's silver cornet band, gaily attired, enlivened the occasion with music while people were boarding the train. Banks and Timmins arrived at the Massena station and headed for the locomotive. There was a look of exultation on the face of Mac's assistant, but Timmins' shaking hands and damp brow betrayed nervous fear.

"I'm afraid about the mail, Wat," quavered the officer of the law.

"You're not attaching the mail," came the reassuring answer. "Let them get another engine if they can."

Meanwhile, the last passenger had scrambled aboard with his lunch basket, his reading matter and his liquor. Engineer Stebbins, having finished oiling around and having perused his train orders, was looking out the cab window for the highball. At that precise moment Sheriff Timmins, with some reluctance, climbed into the cab, while Banks waited nearby on the platform.

Stebbins recognized his visitor. "Sorry, Timmins," he said, "but you can't ride with me. I was on the carpet a while ago for that. So you'll have to go back to one of the coaches."

The sheriff raised a protesting hand. "Just a minute. Wes! Much as I regret to do this, I've got a writ of attachment and I'm holding this here engine of yours right now. So uncouple her and run onto the siding. Here's the warrant, signed by Judge Poor. Read it."

Stebbins accepted the paper and glanced at it in bewilderment.

"All regular and shipshape," Timmins explained. "Suit for Senator X's estate. MacIntosh is the lawyer."

By this time the engineer had partly grasped the situation and cried angrily: "Why, you can't hold up this train!"

"The hell I can't! It's the law."

"And what if I don't uncouple her, but pull out for Montreal instead?"

Timmins reached into a cavernous pocket. "Well, if you're thinking like that, I'll have to arrest you first and put on the bracelets right now," he stated firmly.

The engineer glared defiance, but was

forced to admit: "All right, sheriff, you win." He read the warrant.

OBSERVING that something was wrong, the conductor and Pete Lewis, the station agent, came down the platform to get the facts. The matter was put to them in a few pungent words. Lewis was a practical railroader, long inured to trouble. He saw in a flash that a neat little legal trap had snapped around them. After a few seconds' thought he asked:

"What can be done, sheriff, to get us out of this mess?"

"Better wire the Montreal office. It'll take five thousand dollars and my fees to lift the attachment and release the old boiler."

Lewis went back into the station and furiously tapped out a message. Meanwhile, the excursionists had piled out of the coaches and crowded around the head end. One of them, himself a lawyer, harangued the crowd as follows:

"Friends, this is a regular MacIntosh trick and, as usual, it will probably work. The railway can't get this attachment lifted till they have gone to a judge and filed bonds. No judge can be reached for at least forty-eight hours. MacIntosh doesn't start foolish lawsuits. What he is doing here he calls the acceleration of payment. Stick around a while! The money will soon roll in, and then we'll pull out and get to Montreal maybe an hour late."

After a time, Agent Lewis emerged from the station waving a telegram. When he reached Sheriff Timmins and Wat Banks he announced joyously:

"They offer twenty-five hundred dollars and will mail the check today."

Banks shook his head.

"Nothing doing, Lewis! Tell 'em that we must have five thousand and the sheriff's fees." He stated the amount of the fees. "All this must be in cash. No check. Tell 'em to wire the money to the Massena Bank. As soon as the bank says it has the money, the case will be settled and the train can get going. That's final!"

Then came another wait, this time about fifteen minutes. At length the brass hats at Montreal capitulated. A message received over the wire said the entire sum was being telegraphed to the bank. And fifteen minutes later the cashier of that institution phoned:

"We are authorized to pay Sheriff Timmins five thousand dollars and his fees. The money is waiting. Come and get it."

Thereupon the five hundred passengers climbed back into the coaches of the Woodmen's special. Wes Stebbins opened the throttle and the belated excursion train finally got under way.

Legally, the case was closed about fifty years ago. But neither Ian MacIntosh nor anyone else has ever solved the mystery involving the kind of service that Senator X had rendered the Grand Trunk Railway to earn that five thousand dollars in cash for his estate.

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Harvey Girl

Work in a Depot Restaurant Is a Hard Grind, But It Often Leads to Adventure and Romance

By LAURA WHITE

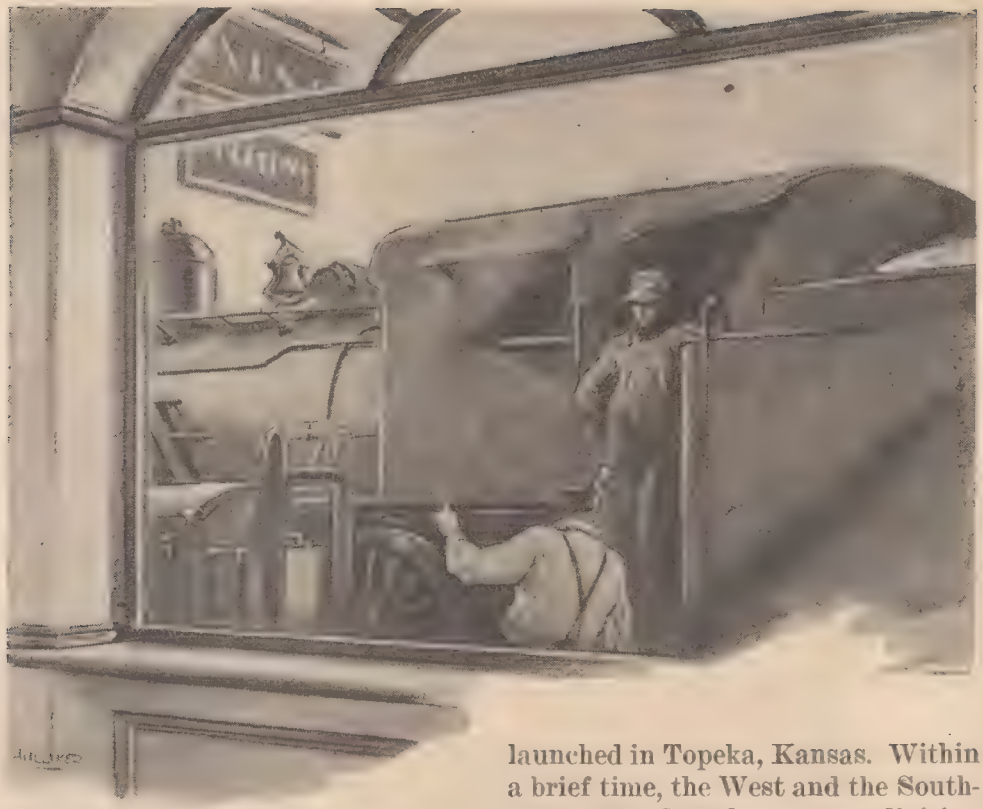
THE TRAIN slowed down at the first stop before Ash Fork. Already the brakeman had gone up and down the car, pencil in hand.

"Breakfast in one hour at Ash Fork," he said. "Fred Harvey service. Dining-room, six bits, lunch counter, pay as you eat." The brakeman bent over sleepy passengers in front of him. "What'll it be, sir, dining-room or lunch counter?"

Making a note on the pad in his hand, he paused before Ma and me.

"We're going to work there," I said.

The trainman glanced up with that quick, friendly interest we'd soon learn to expect from railroaders everywhere, and paused long enough to tell us briefly about the Harvey House setup. Then he went on down the aisle. After getting the number of customers for dining-room and



counter, he would report to the conductor. And when the train stopped, the conductor would swing off, walk briskly to the telegraph office, and have the op put on the wire the tally of diners. In that way the restaurant staff at Ash Fork would be prepared for the train when it pulled in.

Such readiness is part of the Harvey tradition. Back in 1876, a Santa Fe official named H. W. Pettibone had coaxed Fred Harvey from behind his pie and sandwich counter in Atchison, Kansas, and had helped him to lay plans that, in the years to come, would change train travel from an ordeal into a pleasure trip. While the Santa Fe furnished transportation, Harvey would supply the food and service that travelers wanted. The first Harvey House was launched in Topeka, Kansas. Within a brief time, the West and the Southwest were dotted at every division point with these "little red eating-houses" or depot hotels.

And now in 1917, Ma and I were going to become part of the army of girls who assisted in making this chain of restaurants unique. The Harvey girl is not merely a waitress; she is, in a sense, the feminine counterpart of the Santa Fe man—a railroader at heart.

Ma and I had worked together since I was ten. When I reached fourteen and my hair went up on top of my head and my skirts down to my ankles, fellow workers took us for sisters. But except for having the same last name, there was little resemblance. Ma was tall, beautiful, with wavy brown hair, erect carriage, dancing eyes and feet; while I was plain as an old shoe, had straight

hair and a snub nose, and practically never danced unless in the mountains or among friends. She looked younger than she was, while I, at seventeen looked older.

One morning we stood on the corner of Sixth and Broadway in Los Angeles. We were both jobless. Ma said, "Now what do we do?"

Harvey signs were everywhere that autumn. The need for girls to help feed the boys heading for the battle line in France caused the employment agents to hire nearly all who applied, regardless of age or experience.

When I mentioned this, Ma said: "We don't want to work for a railroad. We don't know anything about them."

"Of course we don't, but what's the difference?" Trying to be funny, I added: "They won't want us, anyway. No one else does."

When we entered the waiting-room of the employment office we found there was standing room only. I said glibly: "By the time we wait for this bunch to get interviewed, it'll be noon."

DUST seemed the fare at Albuquerque, but here the sun shines on Alvarado Hotel

Then the door on the opposite side of the room opened. A business-like person looked out, sized up the crowd, and pointed at us.

"You two—come here!"

We walked across that room; and in five minutes we walked out of it in a trance that we didn't recover from for twenty-four hours. That business-like person didn't ask us how much we knew. She didn't ask us anything. She handed us a slip of paper, saying, "You leave tonight," and ushered us out as quickly as she had beckoned us in.

Back on the street, I leaned against a telegraph pole—I had to—and asked Ma what was on the paper. She opened it and read: "Ticket office, Santa Fe station, two passes, Ash Fork, 8 p.m."

Ma inquired, "Where in Sam Hill is Ash Fork?"

Well, by supper time we were packed and ready to go. We still didn't know where Ash Fork was, but as we were leaving the house, the landlady, who thought we were as crazy as we felt, remembered she had a dictionary with a map in it. She fetched it from the parlor table. When she found Ash Fork in Arizona, we felt a little surer of ourselves and could step out to the depot confident of our destination at least.

THAT night I had my first experience trying to sleep in a day coach. I'd get nicely adjusted and begin to doze, when a jerk would throw me forward in my seat. I woke at all the stops. Also when the engine labored up grade and when she bucked down grade, and when the conductor brushed past me, and when other passengers got on or off. In short, I didn't sleep very soundly. I didn't know that I should have

Photo by the late Ben Wittick, Albuquerque, N. M.

TYPICAL motive power on the Santa Fe at the time the Harvey System was organized: This engine, the ***Baby***, was four years old when Fred Harvey opened his first restaurant at Topeka

loosened my shoes or taken them off. I just suffered through with legs sore from bracing and arms stiff from holding on. My hair was down, my neck felt broken in a dozen places.

The following morning, when the conductor said that Ash Fork was the next stop, I wasn't thrilled or concerned enough to do more than set my hat on straight and follow the porter down the aisle. I even forgot to look out the windows for a town.

We stepped across the tracks in front of a long frame building—my first Harvey House—went through the door and into the lobby. There we waited until the train was gone. If we had known that we could, we would have gone into the dining-room and eaten our breakfast with the passengers. It was just as well, for that first half-hour gave us time to wonder if the black uniformed girls we saw through the open door were doing what we had come out to do. We learned later that it wasn't unusual for one girl to serve sixteen people a full meal in twenty-five minutes; but we didn't know it then, and what we observed seemed easy enough.

The manager talked to Ma very

pleasantly, but he merely stared at me. (Years later, he told me that he had ignored me that morning in 1917 because he thought I was too young for a Harvey job.) Then he called the porter and ordered him to show us our room, adding, with a glance at me, "Be sure to show them where the bathroom is."

My face grew red as I followed the boy upstairs. I thought I'd been insulted, and cried from nervous exhaustion and lack of rest. At length Ma coaxed me down to the lobby again.

The manager was waiting, and led us into the lunchroom. "Something extra special," he told the waitress. We were to look the town over that day, he said, and report for work in the morning.

Our jump into the dark had turned out fine so far. Here, within fifty feet of the porch, lay open prairie. Beyond, to the north, rose fascinating stretches of red hills, with blue mountain ranges looming southward. Herds of white-faced Herefords and an occasional ranch house dotted the rolling landscape.

At Ash Fork, pigs roamed the one street, chased up and down by a stray steer who seemed to think he owned all rights thereto. The air was cold and biting, the sun radiantly bright. We talked, as we walked along, of how well off we were going to be. Besides the food—more varied and better cooked than we had ever known before—our wages seemed very large. The Harvey House was generous. We didn't have to spend a cent for room and board! Our laundry would be done for us and our room cleaned. There was also the prospect of travel. We almost danced in front of Ash Fork's post office, grocery and hardware store.

But I nearly lost my nerve the following morning, when Ma and I were assigned to work at the counter. The way those veterans could carry fourteen or more hot platters at once on the left arm left me dizzy and discouraged. No less wonderful was the magic by which they could remember who had ordered what. And the prices for so many varied dishes!

THE LUNCH COUNTER was spotless, with a special air of brightness and freshness. There were colored patterned tiles and floors of shaded or designed cement. Every piece of metal or glass glistened. None of that odor of stale food that you find in cheap hash-houses.

Harvey windows and doors at Ash Fork were open to the clean desert air. I recall the aroma of their special brand of coffee, the wholesome smell of spicy ham sandwiches as the wax paper is removed, the steaming mounds of hashed browned potatoes, the juicy sirloins, the chicken a la king.

I lost no time exploring the nearby hills. I'd set the alarm for four or five and go out in the frosty air; pick a destination and try to get there before the sun came up. That would give me four or five hours to hike before train service at noon.

A young fireman named Mac used to waylay me on these walks. Mac would watch when I started out to see where I was headed; then he'd circle around and meet me. I'd come up over a hill miles from town, to see him sitting quietly on a rock or stump, waiting for me. He was good company, and we had many pleasant trips together.

Later, when Ma and I were transferred from one town to another we learned that the Harvey girl was a

specially trained waitress—almost a new kind of woman. The attitudes toward us varied. On the whole, people seemed to understand and accept us. But some towns had their missionary societies where good matrons worked their heads off to provide recreation for the soldier boys away from home but had not a kind word for the women helping to feed those boys! In one place the Harvey manager's wife was questioned at a sewing circle.

"These girls—what kind are they?" she was asked.

The lady replied with quiet dignity: "The same as your daughters. Girls from good homes and good backgrounds—teachers, nurses, stenographers—who want to travel or get away from some confining job. I'll stand any Harvey girl up against your daughters for manners and ability."

"But don't you get lots of scum?"

The manager's wife gave a look of withering scorn. "We take the help that the employment centers send us. Some mistakes are made, of course. We see that the wrong girls don't stay."

In that same town, I sat in a church one Sunday and heard the minister declare smugly, "I'd rather see the girls in this congregation in hell than working at that Harvey House."

Two town ladies sitting in front of me nudged each other, glanced around and whispered. "There's one behind us. I hope she liked that."

Entering another church the next Sunday, I stepped into a pew beside a pretty woman, who immediately closed her hymn book and moved to the far end of the row. But on the third Sabbath in that town, in still another edifice, I found a friendly group. These folks believed and lived their religion in a practical way.

There were always "mashers" who looked on the Harvey employes as their special victims because they were away from home and presumably unprotected. I have said to more than one village cutup: "If I had a brother or father nearby to punch you in the nose, you wouldn't dare talk like that to me."

Once, at the Ash Fork counter a nice-looking boy wanted to know if I'd go walking with him. I said I'd think about it. As I turned to go away with his order I caught a quick shake of the agent's head. When I came back I said, "About that walk —I guess not." I saw he was hurt, and I was sorry, but I knew the agent must have had a good reason for warning me against him.

That night Mac invited me and another girl to inspect the shops. We went with him through the yards and the buildings until we came to the boiler room. As we entered, I recognized the fellow who had asked me to go walking. This boy was scrupulously polite, explaining the boilers and various gadgets to us. But as we were about to leave, he called my attention to something else in the room; and when I turned to look, he jumped in front of me, slamming the door after the other girl and Mac had gone out. Mac pounded on the door, demanded that it be opened. The boy in the room with me said:

"I just want to tell you something, Miss White."

He had seen the agent shake his head and had understood why, and now he wanted to clear himself. Afterward, at my request, he repeated this story to the agent. When he had finished, the agent shook hands with him and took the fellow's name off his blacklist.

ASHFORK was a little eating-house stop in a desert, with only one street, but had its share of excitement. For instance, an Indian bit a bootlegger in the course of an argument; blood poisoning set in, and the Harvey girls nursed the bootlegger back to health. On another occasion a Negro porter was chased out of the counter by the manager with a wicked-looking knife. What the fuss was about, I never did learn. The colored fellow streaked for the hills and I never saw him again. And on New Year's Eve the cowboys galloped into town and did a lot of shooting. But the community could not have been very wild, for I saw only one grave in the local cemetery. Ordinarily, the cowhands were fairly respectable. Throughout the year they often rode into town with spare horses and took the girls riding.

GIRL HOBO we helped out with clothes at La Junta

One of the waitresses wanted to go shopping in Williams, twenty-three miles from Ash Fork, and I went along with her. We rode a caboose, spending most of the time in the cupola, and enjoyed it very much. The return trip was less pleasant. My friend arranged for a freight to slow up at the water tower east of Williams, where we climbed on through an open boxcar door. Then, just before we got to Ash Fork, we unloaded, with arms full of parcels. We managed to get off unhurt, but I can't say how we did it.

I knew but one other girl who liked to ride freights. She was taken off a train at La Junta by a special agent. We all chipped in to help her with clothes. She worked only a few weeks, then the wanderlust seized her again and away she went. Later I heard that she lost both legs jumping off a freight at Pueblo!

I preferred to work at the counter rather than in the dining-room, because it was less formal and you could say a few words to the customer if you wanted to. The dining-room customer seemed to sit in a shell of coolness, and the waitress was just another piece of furniture—until she made a mistake.

One day I was helping a girl to get the train service ready. We were dishing up the olives, putting fresh catsup in the bottles, mustard in the jugs, and so forth. A general refill job. I was carrying a gallon bottle of catsup back to the icebox when I slipped. Catsup went everywhere and I found myself sitting in a mess of it. While listening to the supervisor's jangling, I wiped the stuff off and picked up the broken glass. Then I went ahead with my work. On my way back to the icebox with a three-gallon jar of olives, however, I stepped in a speck of catsup I had missed—and there I was, with olives rolling to the four corners of the kitchen, endangering the life of anyone who might dash through the swinging doors!

I can't remember what the supervisor said, but it was not at all complimentary. In fact, hell broke loose. And was I mad! I'd had two bad falls, one after the other, and that was enough. I stood in the office glaring at Manager Hayforth.

"I won't stand for it, I won't!" I

stormed. "I work hard, and won't let her or anyone talk that way to me!"

"Run along and get into a clean uniform," he said very quietly.

That evening he put me in the dining-room, and I stayed there until I was transferred.

All this time, troop trains had been coming through Ash Fork at night, as yet we had not fed any. We girls bought candy, nuts, apples and cigarettes to pass through the windows to the boys when the trains stopped.

Once a soldier said to us: "Why doesn't someone start at the last train for a change? The guys up front are stuffed, but all that we get back here are the wrappers."

So the very next night we fixed up a wheelbarrow full of goodies and passed them out at the last coach. That nearly started a riot.

ABOUT a month later Ma and I were transferred. We were departing from Ash Fork. I'd come there with my eyes closed, frightened and inexperienced. I had left Los Angeles ignorant of where I was going. Not so in leaving Ash Fork. Never again would I start for a place and not know all that timetables and tourists and folders and railroad men could tell me. Geography had become a live, interesting subject. History took on new meanings.

Adama would mean nothing to me if I had never worked for Fred Harvey. But I now knew I should get off there if I wanted to go to the Petrified Forest. And Winslow. There's where I'd leave the train to go to the Meteorite Mountain. And Williams was where I'd change to go to Grand Canyon.

My second assignment was Gallup, New Mexico. Ash Fork was a model of efficiency, neatness and good service; but the wooden shack in Gallup echoed with the shrieks of waitresses, the rattle of dishes and crash of glasses. Confusion reigned.

Not knowing of the new structure being built eastward on the platform, we were sick at the thought of having to stay there.

Ma looked at me and rolled her eyes. "Suppose we had come here to work first, instead of Ash Fork?"

All eight-seater tables in the dining-room ought to have been set, ready for the customers. We knew that the crowds were way out of proportion to the number of employes and the equipment on hand or the space to work in. As we ate we

I MADE friends with some squaws by giving them doughnuts, and was soon invited to their pueblo

watched the transient customers go on their way. Then we asked to see the manager. No one knew where he was. In fact, I didn't get to speak to him once during the entire five months I was there!

Gallup had none of the close friendliness that marked Ash Fork. I never learned the names of anyone in Gallup outside of the first names of the nine girls I worked with. Every group kept to itself, and how we stood it for five months I don't know.

It was pretty plain that Mr. Reed, the inspector, realized what we were going through. He took money out of his own pocket to hire a hall and conduct dances for us, to show he appreciated us standing by him.

Well, there we were on a certain day in February, 1918, seated around a big table in the dining-room, waiting. The guests had left and the girls were hollering back and forth. One asked:

"How long have you been here?"

"Since yesterday," came the answer, "and I'm leaving tonight."

The first girl, a talkative type, turned to a jolly-faced waitress. "How are you coming along with your collection of stubs and such? Got enough to get fired yet?"

"Sure," laughed the other. "I even have a half-smoked cigar and two whisky bottles. I sat on the platform entertaining a boy friend last night, but that landlady don't act like she sees anything. These railroad boys say they'll think up something pretty soon that'll make her report me."

"Why go to all that trouble? Why not just walk out?" questioned the newcomer who was leaving that night.

"Money, darling. I can't walk back to Chi, and I'm signed up for six months. Have to be fired to get a pass."

SHE turned to us inquiringly. "How long you two been here?"

"About an hour," I said.

She grinned. "Be wise and don't even take off your hat."

Just then Mr. Reed came in and walked over to us. "Are you two girls from Ash Fork?"

We nodded. Ma asked, "Where is our room?"

At that he sighed. "I don't know."

We looked at each other. The girls giggled. Mr. Reed ordered them to clear out. They responded with wisecracks.

He ignored that, turned back to us and told us to go take in the town. "Before night I'll find a place for you to sleep," he promised. We wandered around for hours, saw some desert country and a lot of Indians. I have always been interested in Indians. One time I cultivated the

ACROSS the twisting rails, the long frame building is Harvey House at Ash Fork, Ariz., my introduction to the System

friendship of squaws by giving them doughnuts, and thus got invited to visit their *pueblo.* A railroad boy boy drove me out there and we went back several times. Many a good story I heard from the redskins as a result of those "sinkers."

But getting back to my first day in Gallup: When Ma and I returned from our long walk, we asked Mr. Reed where we would bunk for the night. He wanted to know if we were easily scared.

"Of course not," I answered. "Why?"

Then he said that he'd been unable to find a vacant room anywhere in town. There was plenty of space in the new Harvey House, in course of construction, and he had a store-room full of beds. The place had no door, he explained, but he would have one put on tomorrow.

We were so tired we could have slept on the station platform; so we took our suitcases over to the big stone building that was just getting its roof on. We walked through those vast empty rooms and halls to a little back room on the ground floor, and were soon buried in slumber.

OFF DAYS, I found welcome recreation in riding a horse or roaming the wide open spaces

Morning came. Mr. Reed, finding we had survived the night, decided to move the help into the new building as it was. He had the carpenters put in more windows and doors. Later we were housed upstairs into a separate section.

A couple of nights after our arrival at Gallup, word came through that we were to feed four hundred sailors in the morning—in the unfinished dining-room. When I went into it I found only twelve boards set on sawhorses. There were no tables at all and very little other equipment, even in the kitchen. That was a terrible morning. At length we got them fed, and then stood back and viewed the wreckage.

By the next day, furniture began to arrive. Large eight-seater tables could be set with table cloths that would have just the right distance from the floor, and there would be bright and shining silver, sparkling glasses, and little silver frames for each corner of the table to hold the menus for that meal. Soon we had cream and sugar bowls in reach of all, with butter, relishes, and soups on the table when the customers sat down, and coffee girls stood by to fill the cups. As more equipment arrived and the work became smoother, the girls grew more cheerful and decided to stay.

The months of February, March and April were full of troop trains. Talk about busy! Sometimes we fed three troop specials a day, along with regular trains and the local trade. A waitress with two eight-seater tables, resetting twice each meal for three meals, could feed ninety-six of Uncle Sam's boys in three meals, besides her regular train customers and town trade. Sometimes more tables were crowded in, until each waitress had to handle three or four tables at a time.

I'll never forget the day I had a total of four eight-seaters for three setups at one meal! My trays were so heavy that the cooks lifted them to my shoulder and someone else had to take them off when I got to my "station." You see, I was a youngster weighing only a hundred and ten pounds.

DURING the big rushes we washed our own dishes at the tray stand, reset our tables and then held up our hands to show we were ready for more boys from the big line that stretched out through the lobby onto the station platform. The troop trains stayed until each and every service man had been given a square meal.

When a girl began to reel, we would say, "Buck up, gal, they will be putting in lots of overtime for you before long." But by ten o'clock at night all of us were walking in a daze. We would climb the stairs and throw ourselves across the bed, clothes and all. Oblivion—never longer than a minute, it seemed—then we heard the dreaded callboy marching down the hall.

"Four o'clock!" he'd cry. "Five hundred Marines for breakfast this morning!"

Wearily we'd pull ourselves off the beds, put on clean aprons, brush our hair and start all over again. Most of us were too tired to venture further than the window to watch those trains of overcrowded, cheering boys pass out of view. But there was one girl from the counter, a most unusual person, who would slip out with pencil and tablet, and walk up and down the platform, offering:

"Any lonesome boy without a

sweetheart, give me your name. I'll write to you."

And she did, too, night after night when she should have been resting for the next day's work.

On rare occasions, there were no trains in the evening and some girls would double up on the tables so that others could get an extra hour off. Those of us who had been out, had to come back in through the kitchen, up a stairway, down the guest hall and then to our rooms.

One night Ma and I sneaked out to a show. Coming in about midnight, we were starved. "Gee, I could eat a horse," I said to the night cook as we passed through the kitchen. With a grand flourish he threw open the steamtable lid and announced: "No horse, ladies, but chicken. Look. Beautiful chicken!"

Thereupon I grabbed a whole baked bird and started for the door, clumping up those stairs two at a time. The enraged cook was at my heels, but he left off the chase when he came to "no man's land," the hall opening up on the women's quarters. Luckily, nobody else saw me with the chicken, which Ma and I divided at our leisure. Next morning the man had a hard time explaining what had happened to the missing food. I promised him I'd never do such a thing again.

Gallup was not helping my health. As I have said, the heavy trays were far too much for me. Ma and I had put in six months at Gallup; and as the rush of troops was over, we did not feel we were deserting in asking for our passes. But each time we mentioned them to the clerk, he said they had not arrived.

Two months later, he admitted they had been in the office all the time; but since help was hard to get, he'd been instructed not to give them to us until we refused to work. We did refuse, right then and there.

IT WAS WINTER when Ma and I showed up at a Harvey House again. Before I could even interview Manager Brant I had to feed his dog. I entered the manager's private room, hurriedly set the platter of dog food on the floor, and walked out. I went directly to my own room.

Mrs. Brant, with hennaed hair, pasty complexion and green eyes, looked none too friendly. Trouble was ahead. I sized up Mr. Brant in one glance, too. I felt sure he would not meddle in anything his wife chose to do. And I was right. I never heard him speak but once. That was the night before we left there, when he tried to keep the clerk from selling me a ticket to go down into the Grand Canyon.

Mrs. Brant was always breezing in and out of the swinging doors, issuing orders. Her fussy attitude gave me the impression that for the first time in her life she had found herself in power and was going to make people jump for the pleasure she got out of it.

All the girls stiffened when she hove in sight. At her leaving, the air cleared, and good will pervaded the place until she appeared again.

An Irish girl who had just come into the dining-room was standing at the table just inside the kitchen by the swinging doors, giving her tray the final touches and checkup. Upon seeing her, Mrs. Brant hollered:

"Who are you?"

"Me!" the girl hollered right back at her. "Me, begory! Me! I'm Marie Finegan, from Brooklyn. A waitress I am, five feet four, and I don't snore when I sleep. Anything else you'd be

Back in the Days:

"BETTER get in the clear, brother. Here comes my regular run"

likin' to know? And—who may you be?"

That little speech cost Marie her job.

We had to get up at four a.m. to clean silver, wash windows, and soak rags in coffee to mop the oak beams in the dining-room. There were no bus boys to carry out the trays and do the cleaning. We had to care for our own rooms, too, and take turns with the halls and bathroom, and sometimes work in the laundry on our free time. Of course, it is not that way now. The five or six families in town entertained us girls, individually or collectively, with dinners and parties in their home, and Kolb Picture Studios usually conducted dances for us on Saturday nights. So we managed to get some recreation. But I was glad when Ma and I left the jurisdiction of Mr. and Mrs. Brant.

On reporting to the lobby of the Albuquerque Harvey House, we were turned over to a boy who was told by the clerk to take us to our hotel. Being new, the boy thought the clerk meant the hotel across the street. He set us down in a room with three kinds of wallpaper on the walls, as many kinds of carpet, a hodgepodge of furniture and no lock on the door. We had never been assigned to such a room before; but since it was nearly midnight, we put a chair under the door knob, left on the light, and fell asleep.

In the morning another boy arrived and said we were in the wrong hotel. We followed him around the corner, where we were given an inside room opening onto a skylight. This was a fine room, except that the landlady's chickens roosted on the skylight. We asked for other quarters, and learned that by paying extra on what Harvey allowed for rent, we could get a front room. Three layers of cheese-cloth across the windows kept out the dust storms and allowed us to sleep during the day.

We went to work about seven in the evening. After midnight we were sent off duty to our rooms for two or three hours. Then back on the job until the morning breakfast train had gone. I was glad to work nights in order to see the country during the day.

Another girl and I were on duty from four to six a.m. to prepare the setups for the morning train. We cut crates of melons, washed and stemmed hundreds of boxes of strawberries, laid the silver and glasses, the cups and saucers, and filled bowls with cold cereals.

ONE MORNING we were busy in the kitchen when we heard an unscheduled train stop. Looking through the peekhole windows into the counter, I saw that every seat was filled and more passengers kept coming in till they were lined to the wall. I tipped off the night clerk so he could send the other girls to help out.

Then I walked into the lunch counter and explained that by some mistake we had not been notified their train would stop here. There were only two of us girls and one cook in the kitchen; but, I added, if they would let me suggest a plan, we would try to feed them all without loss of time. Americans are good sports and they were quick to see what we were up against and to cooperate. All those who wanted oatmeal raised their hands. We brought in all the oatmeal at one time, and the same with the other dishes. The milk and coffee were passed in big pitchers. Then came ham or bacon

with eggs. We had the last setup eating when the relief girls got there—but what a mess that place was in—with the regular breakfast train to feed in an hour!

We'd saved the reputation of the manager, or so we thought. He had other ideas about it. A few weeks later he ordered us out of our room because somebody on the morning shift had broken a tray of glasses and blamed it on us. Ma wrote the Superintendent what had happened. He wired the manager to treat us with every courtesy until he arrived. Back came our room and our meals. But still the Superintendent didn't show up to end the difficulty. Ma got impatient and wrote to a little hotel called Bishop's Lodge, in the Pecos Mountains back of Santa Fe. As soon as we heard from the manager there, we took the train to Lamy, where we transferred to a short line to Santa Fe where we were met with a car and whisked through the mountains to Bishop's Lodge—a cozy group of cottages nestled in a peaceful valley.

We were to live in regular adobe houses, each room of which had a corner fireplace; and so we went to work. The cook happened to be a man with whom I'd had some trouble at Albuquerque. However, we agreed to forget the old unpleasantness, and he proved to be a fine person to work with. Later, though, I had an accident, the blame for which could have been his. It happened this way:

Some guests had come in very late, after the cook was off duty, and I dished up for them. Everything went perfectly until I went for the coffee. The urn looked empty and a pan on the stove had black liquid in it. Supposing that this was coffee, I poured it into the cups and started for the dining-room. Something stopped me. I set down my tray and looked at those cups. Then I picked one up and took a swallow. From the way it burned my insides, I knew instantly it wasn't coffee. Rushing to the icebox, I drank about a pint of cream, thanking my stars that the guests hadn't drunk this fiery liquid.

LAYOUT of the old Gallup House showing baggage station, lunch room and dining-room. Later El Navojo replaced this

After that I found some coffee in the urn, below the gage, and served it. As I watched the folks eat I expected to collapse at any minute. However, I kept going back to the kitchen and drinking more cream. As soon as they left, I hurried to the cook's adobe shack and awoke him.

"What kind of liquid was that in the pan on the stove?" I asked.

"Why?" he responded in obvious alarm.

"I drank some of it."

He grabbed me. "Oh, Mother of God!" he cried. "People will think I tried to kill you! That was lye, strong lye! I'd burned some apples, so I put lye in the pan and set it on the stove to soak until morning. Don't tell anyone — please!" he pleaded.

Convinced that he was not to blame, I let the matter drop; but the office must have wondered where so much cream went to during the next week. After a few days the burning pain in my stomach stopped, but it was a long time before I could sing again.

One night Ma waited on the manager of the Lamy eating-house. Knowing my love of the place, she asked him if we could work there. He agreed, and soon we were on the move again. At Lamy we ran into the Superintendent, who promptly said that experienced help was not going to hide away in any hills. He hustled us onto the first eastbound train, telling us to get off at La Junta, Colorado.

There we were met by the manager, made to feel right at home and sent to a fine room. We both went on nights now, at the counter. Ma was head girl at first, but not for long. The strain was too much. After collapsing on the job, she was or-

ONE SWALLOW from the cup told me it wasn't coffee. My insides burning, I drank a pint of cream

SANTA FE section gang. Fellows like this serve the Santa Fe's traveling public to an even greater extent than the Harvey Houses do

dered to stay in bed until the doctor could examine her. Mr. Leser asked if I could take her place.

I said, "Yes."

"Then, do so until she comes back."

We didn't think she would be ill long.

A FEW days later, just after I'd come off duty and gone to bed, a fire alarm rang. I said to Ma:

"You stay where you are, I'll go see what it is. Maybe you won't have to be moved."

I put on my robe and opened the door. Girls were running in all directions, trying to pull trunks down the hall. Thick smoke was piling up the stairway. The blaze was directly under Ma's room. There was no time to lose, I thought. Mr. Leser worked an extinguisher, but the smoke was choking him and he wasn't doing any good. I grabbed it from him and ran into the room, behind the smoke, where I could locate the flames.

The fire had started from a cigarette thrown into a waste basket. From there it had run up to the ceiling. The ceiling must be put out first; for right above was a cot with an invalid on it. I was doing well until my firefighter's act turned into a slapstick comedy.

Mr. Leser had found another extinguisher, and sprayed me instead of the fire. The clerk came running down the hall with the fire hose. When that water hit me, I went down. I managed to get low enough to crawl away from it and reach the door. There I cut loose on the clerk in no pretty manner.

Mr. Leser had the idea of throwing a burning suitcase out the window. "Open the window!" he yelled.

I did. The clerk threw the suitcase. It bounded back into the room, burst open, and the flames from it spread all over the place. I got the screen off, and out went the flaming satchel —onto the porch roof.

I saw that the roof was wooden and yelled for Mr. Leser to bring the hose. At the same time, the crowd that had gathered below saw the danger. One fellow jumped on another's shoulders and attempted to reach the case to drag it off. The hose came into play again. A strong burst of water hit the case, toppled it, and washed it down on the crowd. They scattered. Then we turned to face the fire chief and his men.

Mr. Leser laughed. "Go home! I have a better chief than you are; the fire is out."

The chief said, "Let me see him."

When Mr. Leser pointed to me, that tin-hat just roared. I looked like

Photo from "Milepost" Paul McGuire, Santa Fe section foreman, Fairfax, Okla.

something the cat had dragged in; but I didn't see anything funny about it just then, so I ran out of the room and upstairs. The minute I hit the linoleum my wet feet slipped and down I went.

Immediately, the room was full of people. They helped me up, and then I learned that Ma had collapsed again under the excitement and been taken to the hospital.

She stayed there from late October to January. When Mr. Leser realized how hard it was for me to keep up with the bill, he had her brought back to the hotel and put into a guest room. His wife and the maid waited on her, while railroaders sent her gifts such as flowers, books and so forth. One of the boys would drift over to the counter, casually throw down a dollar, and say:

"Go buy Ma some posies."

Yes, they all knew my mother, and missed her. Some of them would even read to her as she lay in bed. At Christmas they arranged a special party for her. The freight crews never dressed like fashion plates, especially when they were on duty. Many wouldn't take time to wash up when they came to the counter for a quick bite. Sometimes a city slicker would turn up his nose at them. For instance, a traveling salesman asked me:

"What is it that you girls see in those greasy fellows?"

I told him where to head in. "Our friends are behind that grease," I said proudly.

SPEAKING of loyalty recalls the fact that the restaurant across the street from our place had been losing business. The owner tried on several occasions to induce me to take charge of it and train his employes —at double what the Harvey people were paying me. It was a tempting offer, but I replied that money couldn't buy the kind of service Harvey had given me and mine. Mr. Leser heard about it and inquired:

"Why don't you accept that job, Laura?"

"Because," I said, "I never forget favors."

Meanwhile, worry over Ma's condition and my lack of sleep affected my appetite. I began drinking too much coffee—in fact, almost living on it. Mr. Leser noticed I was pale and pinched-looking.

"You need a vacation," he said. "Would six weeks' rest be enough?"

"Would it?" I gasped in surprise. "Why, that's wonderful! Sure it would, Mr. Leser."

He gave me a funny grin. "All right, you take the vacation. But don't go and get married."

In a few days I was on my way to Los Angeles. The attention that railroaders offered Harvey girls when we traveled certainly showed up on that trip. The porter gave my suit and bags an extra brushing. The conductor heard me admire some roses on a fence as the train waited on a siding, and presented me with three beautiful buds. The news butcher often asked if he could leave his basket of fruit or magazines in my seat for a few minutes—and richly rewarded me for "looking after" his wares.

I had a happy vacation, and in two weeks was ready to resume work. But when I reached La Junta I learned that a phoney telegram had preceded me. "Married this morning. Laura," it said. Thus I returned to a job I no longer had. As soon as I explained the situation, Mr. Leser put me to work, but it was weeks before I tracked down the joker and the manager really believed my story. A long time afterward, when I was to get married in Newton, Kansas, the minister of my fiance's church heard about the telegram and nearly balked at tieing the knot.

Meanwhile, Mr. Leser and I continued to get along fine at La Junta. Then one day a girl he'd fired put her suitcases in my room till train time, and she and I walked uptown to bid her friends good-bye. In the interim, a nosy maid had reported to Mr. Leser that I planned to let the girl sleep in my room. When I came back to the hotel I found an unpleasant surprise. The bellboy rushed over to me, warning:

"Leser'll kill you! You'd better beat it!"

"Why, what did I do?" I queried.

"I don't know, but he's crazy mad."

That manager must have been raising cain. It aroused my curiosity. I instructed the kid to go and tell Mr. Leser that I was waiting in his office. On a previous occasion, I recalled, he had been furious with me over an alleged misdemeanor but later had apologized after learning that he'd been misinformed. As I was thinking of that incident, Mr. Leser hurried into the office, talking loudly. He said I'd taken too much on myself in daring to cross his authority. When he finally got around to telling me what I was accused of, I asked if he had any proof that I had meant to let the girl stay in my room for the night.

"No," he admitted, "but—"

"Isn't my word as good as the maid's?"

"Yes, of course."

"Well," I said, "the girl is going to Pueblo tonight, paying her own way. She left the baggage in my room to keep from carting it around."

At that Mr. Leser calmed down. I have always known him to be reasonable, and the affair blew over with no further words.

I WAS proud of the crew of night girls I worked with. All were reliable and clean. But once in a while we had a run-in with a cook. I knew,

of course, that anything about the cooks or their kitchen or how they prepared food was strictly their business. On the other hand, the way the food looked when it reached the counter was my responsibility. It was an old trick for a cook who disliked a certain waitress to make her order look messy, so as to cause the customer to complain. Such a case came up in connection with Ella, a night girl whose customer had ordered two fried eggs. When Ella brought the order in, she informed me that the cook had deliberately broken the yolks.

After telling another waitress to get an order of eggs for Ella's customer, I took the broken eggs back to the kitchen and asked for a replacement. The cook was a vicious fellow, but I didn't know he had once cut a man's arm with a butcher knife and spent time in jail for it. This time he tried a game with me. He would fry two eggs and say, "Dat ala right?" "Yes," I would answer and reach for the platter. Then he'd jab a fork into the yolks and grin.

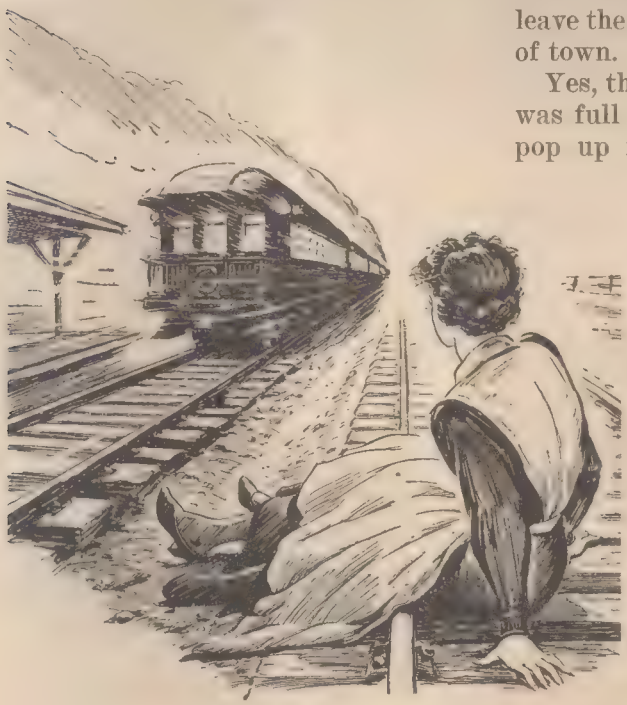
This he repeated again and again. It exasperated me. But I told the girls to carry on no matter what happened and not to interfere unless I gave them a signal, in which case they should call Mr. Leser.

I kept shoving the platter back and saying, "Two fried eggs." He'd throw the platter at me and I'd duck. I was good at it, too. I always dodged the platter, though I usually got most of the eggs. After the cook had thrown most of the individual frying-pans at me and started tossing knifes, I signaled for help. Mr. Leser appeared in a bathrobe. He nodded for me to go. When I came back from changing into a clean uniform, the cook was gone. Mr. Leser warned that under no circumstances must I leave the house until the man was out of town.

Yes, the La Junta that I remember was full of adventure. Little things pop up in my mind. Like, for instance, the time some railroad men promised me a bear when they went hunting; and gave me, when they got back, not a bear but a frightened little cottontail rabbit. It seems they had reached right down into his hole after Mr. Bunny. Of course, I let him go.

Now and then a boy from the express office would come to the counter to have a button sewed on a cuff. This happened so often that I

I SANK to the ground, weak from the shock



got in the habit of carrying a needle and thread in my pocket, and they called me "Grandma." Long afterward I learned that they had pulled off the buttons deliberately, so as to find an excuse to visit me—but what difference did that make? Throughout the world, lonesome boys away from home like girls to chat with, at three in the morning or any other time—and you can talk longer over a button than over a cup of coffee.

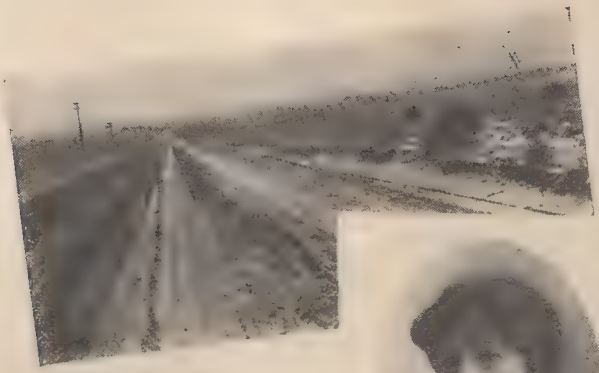
I still shudder when I recall the brush I had with death late one night at La Junta. Hearing the fire siren, I bounded outdoors with the idea of going up on the bypass to view the blaze. I saw a light on the track. If I thought of it at all, I probably decided it belonged to a switch engine. So intent was I on crossing the track that I absent-mindedly rushed in front of a troop special that was roaring toward me at high speed. The train cleared me by less than an inch. It even caught a corner of my heavy apron, jerking me sidewise.

Weak and trembling from the shock, I sank to the ground, and could not go back to my counter for about ten minutes. The other girls on my shift hurried over. They had seen me dart out just as the train whizzed by, and felt sure I'd been hit. In the excitement I forgot about the fire siren.

Shortly afterward, I had another narrow escape. La Junta, Colo., was warned that a wall of water was heading its way, so a friend drove two of us out to the bridge to watch the sight. Tired, I curled up in the back seat for a nap.

About noon, our friend's sister rode up on a pony to say that their folks wanted the car. Reluctantly we started to pull away, hailing a man who still sat patiently waiting. As we drove off we envied him; but later, when we heard his story, we didn't regret our hasty exit. He had watched the sudden rush of the current, but it came so fast he hadn't time to get himself or his car out of the way. The bridge was carried off, and the watcher spent that night in a tree.

ARKANSAS flood caused great damage around La Junta while I worked there



CHARACTERISTIC Harvey House country, a lonely road out of La Junta.

BELOW: Portrait of the author

I WENT on duty at ten p. m., but usually came downstairs earlier for a cup of coffee. About 9:45 the train from the west stopped long enough for passengers to run in for a snack. The Harvey crew on the preceding shift was supposed to care for that train; but one night as the crowd pushed into the counter, the girl in charge ran up to me and exclaimed: "We're plumb out of coffee! I forgot to make any."

I told her to look after her counter, I'd go out in the kitchen and prepare some. Of course, very few people had time to wait for it.

A few mornings later, Mr. Leser and the Superintendent sent for me. The latter asked, "Did you make coffee for the eastbound train the other night?"

The answer was, "Yes." Had they checked the train's arrival instead of taking the passengers' guess that it was "after ten," I would have been cleared automatically of the negligence. But a wire from Chicago had read, "Fire the head girl in charge after ten o'clock." And the Superintendent had wired back, "Head girl fired." He investigated—after the telegram had been sent.

I said, "So what do I do now?"

Mr. Leser thought a moment. Then he answered: "Go on the day shift and get some rest. Take a couple of your girls with you."

"What about the feud between me and the day head girl?"

"I know." The manager forced a laugh. "But at least with you on days I'll be able to sleep without worrying about you and the cooks."

He assured me it wouldn't be for long, though. So I picked two of my fellow workers, Lethia and Ruby, made them promise to do whatever the head asked them to do, and reported on the day trick. The three of us honestly tried to cooperate, but you can't cooperate with a bossy female. There are dozens of ways by which a person can humiliate a waitress in public, and that woman knew them all.

One day, even though a train was due in a few moments and all experienced girls should have been at the counter, she ordered me into the kitchen to wash milk bottles. I rolled up my sleeves obediently and set to work. Mr. Leser came into the kitchen then. He saw what I was doing, and shouted:

"What the hell!"

"Orders, sir," I said, and went on shaking the bottles. Well, that was a little too much for the manager, and he put me back on the night shift.

A few weeks later I was sent to Newton, where the Harvey *Manger* was located, and given a pay increase. That was in 1921. My old gang had been scattered. Ma had recovered and got married again, this time to a Santa Fe railroader. The girls I'd started in with on the Harvey system were now either married women or else were working on other jobs.

At Newton I buckled down to hard work. I was called at six each morning, knocked off at two p.m., rested a while, and returned to inspect again at four and nine p.m. But I was lonesome.

One afternoon in April I was waiting on a railroad man when he asked, "Don't you ever go anywhere, Miss White?"

"To the post office," I said brightly.

"That's no place," he snorted. "I mean out—like riding."

"No."

Then he surprised me with an invitation which was to alter the course of my life—although I didn't know it at the time. He offered me a buggy ride.

"I'll come by in about an hour with the wife," he said. "A ride'll do you you good. You're too pale."

"Why, I—I will think about it," I said, "but I'm not sure—"

And he left me suddenly. In due time, a sweet-faced lady stopped at the Harvey House doorway and announced: "We're ready now. We'll start as soon as you like."

Well, I couldn't refuse. I'd been longing for friends, and here they came to me unbidden. Both man and wife insisted that I sit on the front seat, "so you can see better."

See what? I thought rather bitterly. *Kansas is as flat as a pancake. Not a hill in sight.*

But during the ride my mood changed; and when they let me off at the Harvey House, I felt like a human being again. They invited me to go riding with them the next day, and to dinner at their home. They also said I needed a home of my own, and a good man, adding that they knew the right one.

"Just the man!" the railroader added with a smile. "I'll have him over to dinner tomorrow so you can meet him. How about it? You'll come, won't you?"

Yes, I accepted. Much as I liked Harvey House food, it was a relief for me to eat home-cooked meals now and then. But the stranger—well, I wouldn't express an opinion until I had sized him up and heard what he had to say for himself. . .

It has often been said that Harvey girls usually marry railroad men, and my case is no exception. The man I was to meet proved to be Bill Brunner, a Santa Fe wrecking engineer. I will skip the pleasant details of our first dinner together. Twenty-two days later I left the Harvey system and started on a new career as Mrs. Brunner.

Bill's life, unlike mine, was exciting and dangerous. You know that, if you read his story in the June '42 issue of *Railroad Magazine*. But now he's retired. We are living quietly today in a small California town and have two grown children. It has been a pleasure for me to stir up old memories and write my experiences as a Harvey girl. I feel that the Harvey chain of restaurants is almost as much a part of railroading as the great Santa Fe system itself.

Electric Lines

Conducted by
STEPHEN D. MAGUIRE

Photo from Stephen D. Maguire

LONGEST interurban run in N. Y. State was on Buffalo & Erie, 92 miles. Cars like No. 52 made it in 170 minutes

Empire State Trackage

Steve Maguire

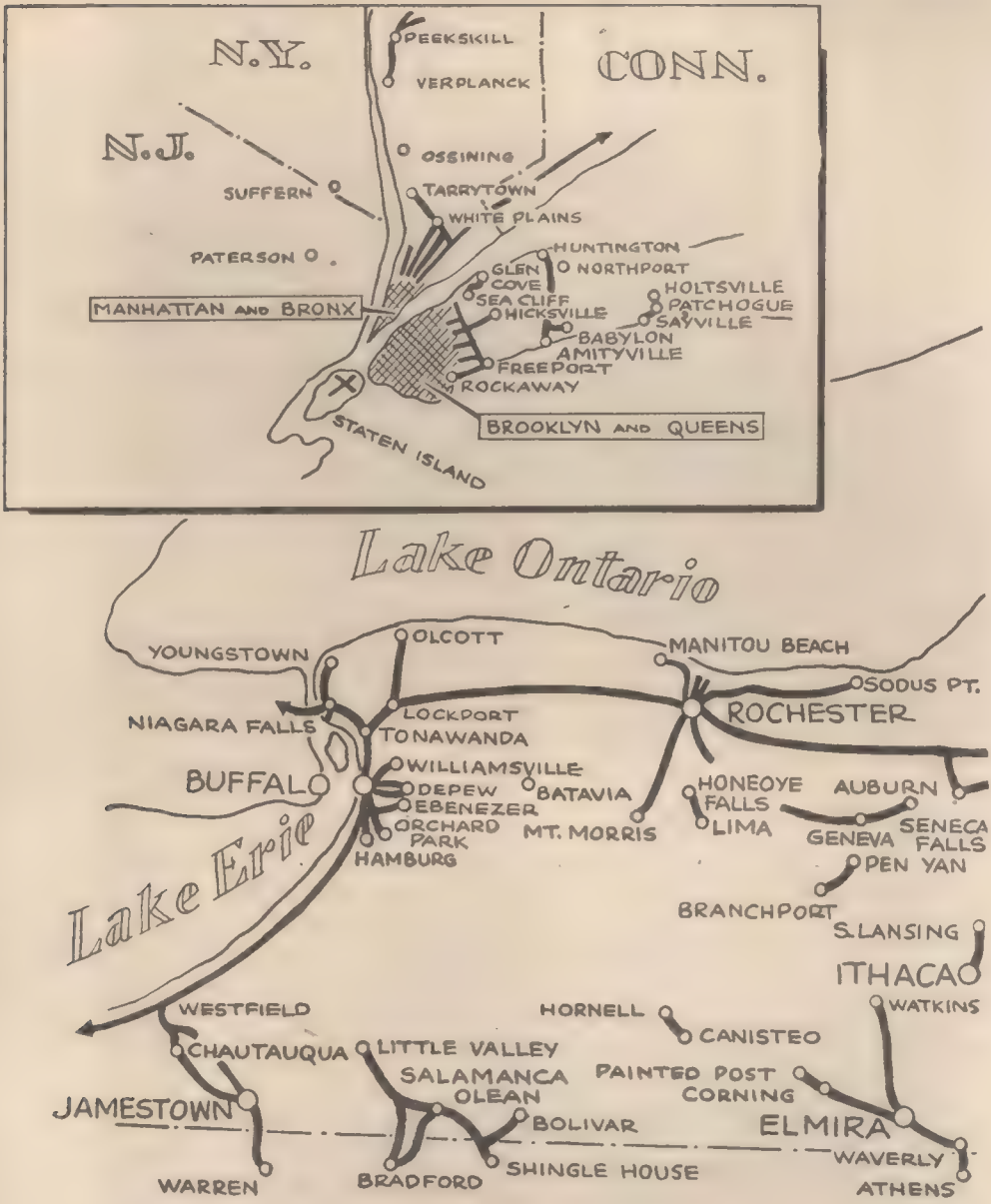
IT MAY SURPRISE some readers to learn that in New York State scarcely more than ten years ago more than four thousand miles of electrified rail lines were operated by about 100 companies, these pikes including everything from a two-mile city route to a ninety-mile high-speed interurban comparable to the best that could be offered anywhere in America.

Unfortunately, all but a handful of these lines are gone today. Ruthless truck and bus competition operated over tax-free highways, along with the private automobile, have cut into the revenues of many lines which, had they been given equal advantages, might still be serving the public.

In the interurban field there is left only the Jamestown, Westfield & Northwestern, a thirty-mile scenic route through the grape arbors of western New York state. The Rochester, N. Y., "subway," built in 1928 and now operated by that city, using former Rome-Little Falls interurban cars on a nine-mile right-of-way, hardly qualifies as an interurban, it being entirely on its own right-of-way and operated as a rapid transit system. In addition, it has extensive freight switching facilities through downtown Rochester.

City lines, as a rule, have fared not much better. However, in the New York City area there remain many hundreds of miles of track which efficiently carry millions of Metropolitan riders, despite Mayor La Guardia's opposition to them. Today in New York State we find local streetcar systems in Buffalo, Albany and Schenectady, as well as in the metropolitan area of Manhattan, Bronx and Brooklyn, extending outward from them as far as Flushing, New Rochelle and Yonkers, N. Y.

Besides the lines just mentioned, there



PENNSYLVANIA

are freight-only operations in Lockport, on an IRC branch line there, also in Niagara Falls, N. Y., on the busy Niagara Junction Railway.

Now, let us go back a few years ago when the Empire State—as might naturally be expected of the most populous state in the Union — was a leader in electric traction.

The lordly Hudson River, winding picturesquely north from New York City to the Adirondack Mountains, skirts large and small cities, most of which used to have streetcar service. Numerous rail lines

HAPPY MEMORIES are recalled by this map of Empire State juice lines, most of which, alas! are now abandoned

ONLY remaining interurban in the state is Jamestown, Westfield & Northwestern, serving Jamestown, Bemus Pt. and Westfield. No. 304 is one of its five passenger cars

were found either along this river or along the Erie Canal which ran west from Albany through the center of the state to Buffalo. This section contained the bulk of the long interurban lines of which the Empire State was duly proud.

Except for the break in rail between Little Falls and Johnstown, it was possible to make a continuous interurban trip from the extreme western end of the state, through Albany and south as far as Hudson.

Numerous other interesting journeys were taken by electric rail in the state at that time. To give a complete story of all the streetcar and interurban lines would require a small library. By looking at the maps on pages 102 and 103 you can see them at a glance.

We have had many requests for all-time maps and lists of streetcar lines in various states, so we decided to tackle New York first, to see how much of a task it really was. And no sooner had we started than we found ourself submerged in a pool of mergers, consolidations, extensions, abandonments, electrified steam roads and so on, that made things look pretty tough for a while.

Anyway, out of the muddle of changes of names which so many of the lines have gone through, we have tried to compile a list showing each company that operated under its best-known name, omitting smaller routes which had been absorbed into it. In each case the more important cities served are separated from the company's name by a semicolon. Where lines are abandoned, the year of last operation is shown.

1. Albany & Hudson RR; Albany, Hudson *(1929)*.
2. Auburn & Syracuse Electric RR: Auburn, Syracuse *(1930)*.
3. Babylon RR: Babylon, Amityville *(1920)*.
4. Batavia Traction Co.; Batavia *(1927)*.
5. Berkshire Street Ry.: Hoosick Falls, Bennington, Vt. *(1932)*.
6. Binghamton Ry. Co.: Binghamton, Union, Port Dickinson *(1932)*.
7. Black River Traction Co.; Watertown, Dexter *(1937)*.
8. Buffalo & Depew Ry.; Buffalo, Depew *(1926)*.
9. Buffalo & Lake Erie Traction Co. *(including Hamburg Ry. and Buffalo & Lackawanna Traction)*; Buffalo, Hamburg, Erie, Pa. *(1934)*.
10. Buffalo Southern Ry.; Buffalo, Ebenezer, Orchard Park *(1931)*.
11. Buffalo & Williamsville El. Ry.; Buffalo, Williamsville *(1930)*.

Photo—by Ralph Pattison, 1531 N. Pennsylvania St., Indianapolis 2, Ind.

JOINT TERMINAL of the Schenectady Railways and the now-abandoned Hudson Valley Railway at Saratoga Springs, N. Y., its Broadway facade facing Congress Park

12 Bush Terminal RR.; Brooklyn *(ceased electric operation 1934).*
13. Catskill Electric Ry.; Catskill, Leeds *(1917).*
14 Central New York Southern Ry.; Ithaca, South Lansing *(1923).*
15 Chautauqua Traction Co.; Jamestown, Chautauqua, Westfield *(1926).*
16 City Island RR., Bronx *(1919).*
17. Corning & Painted Post Street Ry.; Corning, Painted Post *(1930).*
18. Cortland County Traction; Cortland, Preble, McGraw *(1931).*
19. Eastern New York RR.; Ballston, Middle Grove *(1929).*
20 Eighth & Ninth Avenues Ry.; New York City *(1935).*
21. Elmira, Corning & Waverly RR.; Elmira, Corning, Waverly *(1930).*
22 Elmira Water, Light & RR.; Elmira *(1939).*
23. Elmira & Seneca Lake Traction Co.; Elmira, Watkins *(1923).*
24. Empire State RR.; Syracuse, Oswego *(1931).*
25. Erie Railroad; Rochester, Mt. Morris *(ceased electric operation 1934).*
26. Fishkill Electric Ry.; Fishkill, Beacon *(1930).*
27. Fonda, Johnstown & Gloversville RR.; Gloversville, Schenectady, Fonda, Mountain Lakes *(1938).*
28. Freeport Railroad; Freeport *(1924).*
29 Geneva, Seneca Falls & Auburn RR.; Geneva, Seneca Falls *(1928).*
30. Glen Cove RR.; Glen Cove, Sea Cliff *(1924).*
31 Hornell Traction Co.; Hornell, Canisteo *(1926).*
32 Hudson & Manhattan RR.; New York City, Jersey City, N. J.
33 Hudson River & Eastern Traction, Ossining *(1926).*
34 Hudson Valley Ry.; Troy, Glens Falls, Ballston, Warrensburg, Greenwich *(1928).*
35. Huntington RR.; Huntington, Amityville *(1927).*
36. International Ry. Co.; Buffalo, Niagara Falls, Olcott.
37. Ithaca Street Ry.; Ithaca *(1935).*
38. Jamaica Central Rys.; Jamaica, Belmont Park, Far Rockaway *(1933).*
39. Jamestown Street Ry.; Jamestown, Falconer, Lakewood *(1938).*
40. Jamestown, Westfield & Northwestern RR.; Jamestown, Bemus Pt., Westfield.
41. Keeseville, Ausable Chasm & Lake Champlain RR.; Keeseville, Port Kent *(ceased electric operation 1911).*
42. Kingston Consolidated RR.; Kingston *(1930).*
43. Lima-Honeoye Falls Electric Light & RR.; Lima, Honeoye Falls *(1915).*
44. Long Beach Ry. *(rail-bus);* Long Beach *(1926).*

45. Manhattan Bridge Three-Cent Line; New York City, Brooklyn.
46. Manhattan & Queens Traction Co.; Long Island City, Jamaica *(1937)*.
47. Marine Railway *(Battery)*; Brooklyn *(1923)*.
48. Nassau County Ry.; Sea Cliff *(1924)*.
49. New Paltz, Highland & Poughkeepsie Traction; New Paltz, Highland *(1926)*.
50. New York City Transit System *(including Brooklyn & Queens Tr., IRT and BMT systems)*; New York City, Brooklyn, Bronx.
51. New York & Harlem RR.; New York City *(1935)*.
52. New York & Long Island Traction; Brooklyn, Freeport, Mineola, Jamaica Hempstead *(1926)*.
53. New York & North Shore Traction; Flushing, Whitestone, Pt. Washington, Mineola *(1920)*.
54. New York & Queens County Traction; Flushing, Jamaica, College Point *(1937)*.
55. New York Railways; New York City *(1936)*.
56. New York & Stamford Ry.; New Rochelle, Stamford, Conn. *(1927)*.
57. New York State Rys.; Rochester, Geneva, Sodus Point.
58. New York, Westchester & Boston; Bronx, White Plains, Port Chester *(1937)*.
59. Niagara Gorge Ry. *(including Lewiston & Youngstown Frontier Ry.)*; Niagara Falls, N. Y.; Niagara Falls, Ont., Canada, Youngstown *(1935)*.
60. Niagara Junction Ry.; Niagara Falls.
61. Niagara, St. Catherines & Toronto *(trackage rights)*; Niagara Falls.
62. North Jersey Rapid Transit; Suffern, Paterson, N. J. *(1929)*.
63. Northport Traction Co., Northport *(1924)*.
64. Ocean Electric Ry.; Far Rockaway, Neponsit *(1928)*.
65. Ogdensburg Street Ry.; Ogdensburg *(1932)*.
66. Olean, Bradford & Salamanca Ry.; Olean, Bradford, Salamanca, Bolivar, Shingle House, Little Valley *(1927)*.
67. Orange County Traction Co., Newburgh, Walden *(1925)*.
68. Paul Smith's Electric Light, Power & RR.; Lake Clear Jct., Paul Smith's *(1936)*.
69. Peekskill Lighting & RR.; Peekskill, Verplanck, Mohegan Falls *(1926)*.
70. Penn Yan and Lakeshore Traction; Penn Yan, Branchport *(1927)*.
71. Plattsburg Traction Co.; Plattsburg, Cliff Haven *(1929)*.
72. Port Jervis Traction Co.; Port Jervis *(1924)*.
73. Poughkeepsie & Wappingers Falls Ry.; Poughkeepsie, Wappingers Falls *(1935)*.
74. Richmond Railways *(including Staten Island Midland Ry.)*; Staten Island *(1934)*.
75. Rochester, Lockport & Buffalo RR.; Rochester, Lockport, trackage rights to Buffalo *(1931)*.

INTERURBANS of old N. Y. State Railways used to race New York Central steam trains between Rochester and Canandaigua, N. Y.

76. Rochester & Manitou RR.; Rochester, Manitou Beach *(1925)*.
77. Rochester & Syracuse RR.; Rochester, Syracuse, Port Byron, Auburn *(1931)*.
78. St. Lawrence International Electric RR.; Alexandria Bay, Redwood *(1916)*.
79. Schenectady Railways Co.; Schenectady, Saratoga, Troy, Albany.
80. Second Avenue RR.; New York City *(1933)*.
81. South Brooklyn RR.; Brooklyn.
82. Southern New York Ry.; Herkimer, Cooperstown, Oneonta *(ceased electric operation 1942)*.
83. Southfield Beach RR.; Staten Island *(1933)*.
84. Staten Island Rapid Transit; Staten Island.
85. Steinway Lines; Long Island City, Maspeth, New York City.
86. Suffolk Traction Co. *(Battery)*; Patchogue, Sayville, Holtsville *(1919)*.
87. Syracuse & Eastern RR.; Syracuse, Jamesville, Manlius *(1931)*.
88. Syracuse & Northern Electric Ry.; Syracuse, South Bay, Brewerton *(1932)*.
89. Third Avenue System Ry. *(including Westchester Electric RR.)*; New York City, Bronx, White Plains, Tuckahoe, New Rochelle, Mt. Vernon.
90. Troy & New England Ry.; Troy, Averill Park *(1925)*.
91. United Traction Co.; Albany, Troy, Watervliet, Cohoes.

Photo from Stephen D. Maguire

FIRST electric line in state kept old horsecar turntable in use for Vandepoele cars on Binghamton streets

92. Van Brunt Street & Erie Basin Ry.; Brooklyn *(1929)*.
93. Wallkill Transit Co.; Middletown, Goshen *(1924)*.
94. Warren & Jamestown St. Ry.; Jamestown, Warren, Pa. *(1929)*.
95. Waverly, Sayre & Athens Traction; Waverly, Sayre, Pa. *(1930)*.
96. Westchester Street RR.; White Plains, Tarrytown *(1929)*.

Other roads in New York State, all of which are partly electrified and now operating, are the Long Island, the New York Central, the New York, New Haven & Hartford, and the Pennsylvania.

Car-Barn Comments

INTERURBAN TRAILS, the booklet sponsored by Eastern Ohio chapter of the National Railway Historical Society and compiled by Joseph Galloway, 3627 Torrance Drive, Toledo, O., is now scheduled to appear early in 1945, instead of November '44 as had been planned. Last fall, you may remember, we reported the coming issuance of this authoritative story under the title, *The Ohio Interurbans*. This title has since been changed and the scope enlarged to include the entire country. Among other things, we are promised a complete list of U. S. interurbans about forty years ago. The booklet will cost $1.50; other details may be secured from Mr Galloway.

* * *

MADE HOMELESS by war are the 80-odd open cars of the Connecticut Company reports Amos G. Hewitt, 127 Thornton St., Hamden, Conn.

Amos sends us a newspaper clipping to the effect that the U. S. Government has requisitioned the entire second floor of the James Street car-barn of Connecticut Company, where the "summer" equipment, also many plows and work cars, are regularly housed. These open cars are used each fall for football game specials to the Yale Bowl and have been kept in the barn for many years. End to end, they would extend almost a mile down the track. The Connecticut Company is now looking for a spare mile of track where they can be kept. Who has any ideas?

BAD NEWS is contained in newspaper clippings sent us by readers.

Pvt. Seymour Kashin, Btry. B, 34th Bn. Reg. Bks. 3, Ft. Sill, Okla., notifies us that the Oklahoma Railway Co. plans to replace all streetcar and bus lines after the war with trackless trolleys. The disposition of the interurban lines is not made public, but it would appear that a change to gas buses might be made.

Several correspondents advise us that the New Orleans Public Service has just announced through their President, A. B Paterson, that all car lines, except three that operate on reserved track, will be changed to gas buses as part of postwar expansion after the war.

Mr. Paterson says his company plans to give transportation service on a par with other cities of the nation! Perhaps if he would take a long ride on one of his buses, and then visit one of the many large cities that have fleets of P.C.C. cars, he might find the effort was well worth the price of a ride on a modern electric car.

Under the NOPS present plan, the St Charles-Tulane belts, Canal Cemetery and Claude lines would be retained, and the rest of the routes changed to buses.

* * *

MARKET STREET RAILWAY'S long period of streetcar operation in San Francisco ended at 5 a. m. on September 29th when, with little or no fanfare, the Municipal Railway, its former competitor, took over all San Francisco rail and bus service reports A. G. McDuffie, Meadow Park Annex Apt. 50, Rte 1, San Rafael, Calif.

For several days in advance, Mac tells us, the MSR cars had carried the swan song on window posters stating: "After serving you half of a century—thank you and good-bye!"

Among the changes that occurred with the transition were the introduction of a universal transfer throughout the system. Fares of five cents, boast of the Municipal Railway for 32 years, were raised to correspond with the MSR seven-cent rate.

The Municipal Railway took over the San Mateo suburban line with the purchase, and for the first time it is giving inter-county service. Many plans are offered for the future of this route. Some suggest high-speed rapid transit to aid in developing the peninsular towns and cities. We believe the San Franciscans will be quick to see the advantages of such fast rail service.

WHILE San Francisco riders may be irked over the rise in fare to seven cents, across the continent in Queens, one of New York City's five boroughs, the residents find they are being discriminated against in the matter of fares to Welfare Island, situated below the Queensborough Bridge, halfway between Manhattan and Queens.

The two-mile Queensborough Bridge Railway serves that island in the East river, an island which can be reached only by the bridge. Queens citizens have discovered that, while they pay five cents each way for their one-mile trip to the island, Manhattan's residents pay only *three* cents for their one-mile ride to the island, and three cents on return.

It's legal, however. Back in 1939, when the QB Railway received a new franchise, no one ever thought it would get out of the red, in the light of previous records, and one of the provisions inserted into the agreement was that if and when the company earned over the "impossible" figure of $85,000 in fares, the Manhattan-Welfare Island fare would be cut to three cents. And it will stay there until the revenue drops below that figure.

* * *

"LIST of North American electric railways, published in *Railroad Magazine* in May '43, has been of much aid to me while moving around the country since I have been in military service," writes Pfc. Roy E. Covert, Co. R, 15th STR, Fort Monmouth, N. J. "I carry a copy of the list with me wherever I go. Each time I am located in new territory I am able to locate the nearby streetcar lines quickly by referring to it."

* * *

THE TROLLEY SONG, by Hugh Martin and Ralph Blane in MGM's Technicolor film, *Meet Me in St. Louis*, has now appeared as the first new song about trolleys to be published in some thirty years, writes Bryant Alden Long, 42 Gould Ave., No. Caldwell, N. J. It has a breezy melody, with trolley sound effects in the words, and is published by Feist, Inc., 1619 Broadway, New York 19, for 40 cents.

Bryant's bulletin describing all Maryland, D. C. and Virginia electric lines, *Trolleying Thru the Capital Region*, has been reissued in a new and enlarged edition. The price is still 25 cents.

WINTER scenes on the old Hershey Transit at Palmyra, Pa. (circle) and the AC&S in Atlantic City, N. J.

Photos by Chas. Butler, Palmyra, Pa., and Stephen D. Maguire

Photo by Al Comstock, Leonia, N. J.

NORTON'S POINT shuttle line gives free transfers only to residents of exclusive Sea Gate section of New York City, adjoining Coney Island

NOT LONG before Pearl Harbor, when many electric lines were "taking the gas pipe," several railfan groups in the United States obtained complete streetcars from the railway lines. Possibly you may recall them. Items appeared in these pages from time to time telling how car so-and-so was shipped to the fans, and maybe was set out in a field where they could look at it and climb all over the car to their heart's content.

We often wondered what has since become of these cars, in view of the fact that most of their co-owners have entered military service. A recent letter from Ted Burkett, 365 S. Detroit Ave., Toledo 9, O., tells of the condition in which he found the former Ohio Public Service passenger car 21, now the property of the Eastern Ohio chapter, NRHS.

"I found the old wooden car resting in the Oak Harbor yards of OPS," Ted writes. "Her roof leaks badly. Vandals have been at work, too; every seat cushion has been slashed with a knife. Another winter out in the elements will undoubtedly cause more damage.

"Other Toledo fans and I would like to go to work on the 21, fixing her up, but between gas rationing and our bread-and-butter jobs, it's hard to find time to do it. The NRHS chapter secretary has offered the car to us if a suitable spot could be found for her, but the only likely place I can think of would be in the Community Traction barns in Toledo, provided that could be arranged."

It is unfortunate that the effort of these many fans who were able to save old cars from the scrap pile should be put to naught and that such equipment should be added to the lists of war victims. There are several other cars like the 21 resting in fields throughout the U. S., waiting for their owners to return from military duty. We only hope they have not met the same bad fortune as old No. 21.

* * *

"WHERE can I find information on steeple-car electric locomotives?" asks Jack Armstrong, Garson Mine, Ont., Canada. "Our company, Industrial, is talking of changing from steam to electricity after the war. I have written to both General Electric and Westinghouse for information on electric locomotives. All I received was information on Diesels, Diesel-electrics and gas-electrics —not a word on electric locomotives!"

Well, well, what's this, GE and Westinghouse? Are you completely throwing electric railways to the gas boys? Will someone supply Jack with the data he seeks?

* * *

ADDING to our list of cities using trailers, S.Sgt. F. W. Moulder, Engr. Hq., 9th U. S. Army, APO 339, c/o Postmaster, New York City, writes that Anaconda Street Ry. in Montana uses trailers on its eight-mile line to Opportunity. As many as four trailers are pulled by one motor-car during rush hours, the crew consisting of a motorman and conductor. Fare for the eight mile run is only a nickel.

Fred also points out that two companies in Louisville, Ky., use trailers, the Louisville Rys. and the Louisville & New Albany, a suburban line into Indiana.

Boston has several trailers on the Suffolk Downs and Revere Beach lines to Maverick Square, advises Ernest Anderson, 1008 Boulevard, Westfield, N. J.

* * *

BIRNEYS. The Eastern Massachusetts Street Ry. had more single-truck Birney cars than any other line, declares Charles Duncan, Squantum, Mass. Charlie says their Birneys totaled 250 cars, numbered 5000 to 5249. They were built by Brill in 1920.

Birney cars are used exclusively in two out of the three remaining streetcar lines in Colo-

rado, writes W. K. Miller, 1980 Jefferson St., San Francisco, Calif.

In Pueblo there are 45 cars serving seven city lines, all of them single-truck Birneys that are operated on four-foot gage tracks, the only electric line of that gage in U. S. A.

Ft. Collins, in northern Colorado, has only five cars, all of them Birneys, and no more than two are operated at any one time, adds Mr. Miller. Two-thirds of the system is on private right-of-way, with no buses smelling up the city streets.

* * *

"BOSTON & NORTHERN RAILWAY, for which I worked in 1904, had a terrible accident in Reading, Mass., during that year," relates H. G. Nowell, R. F. D., Higganum, Conn., former B&N motorman and powerhouse attendant.

"In the early evening of September 20th a streetcar with a standing load of passengers struck a box that had just fallen off of an express wagon on to the tracks. That would seem commonplace, but on this occasion the box contained fifty pounds of dynamite. No sooner had the car struck it than car, rails and street went into the air. The motorman, W. Rowe, making his first trip for the company, was killed, as were eight others in the car. Thirty more passengers were seriously injured. I was in the second car behind Rowe."

* * *

WOODEN CARS of the 1090 series will disappear, the ODT permitting, as eight new interurbans come to Portland, Ore. Randall V. Mills, Department of English, University of Oregon at Eugene, Ore., is bearer of these glad tidings. He writes:

"These cars, when they arrive, will replace the old equipment on the Oregon City run out of Portland. The steel 4000 class, bought from Indiana Railroad and Fonda, Johnstown & Gloversville three years ago, will be used on the Portland-Gresham run, and as trippers. PEPCO has only recently re-routed their service into uptown Gresham, and cars run now to the old Mt. Hood Station. This replaces the PEPCO terminal which was located several blocks from the main part of the city. On the whole, this company is definitely doing well, and aims to continue so."

Photo from Stephen D. Maguire

AS DEAD AS LAST SUMMER'S ROSES is Peekskill Lighting & Railroad Co., which served Peekskill, Lake Mohegan and Verplanck, N. Y., until it was abandoned in 1926

61 Hours of Rawhiding

LOOKING back over the long years that separate me from youth and the winter of 1900-'01, when I started firing on the Atlantic & Pacific, now part of the Santa Fe main line, I am conscious of a feeling of gratitude toward Pete Harris, the ex-boomer engineer who was never too tired or too grouchy to assist a green fireman, such as I was, over the rough spots.

This fellow had seen a lot of railroading. I don't believe I ever knew how many

By ARTHUR B. REARDON

roads Harris had worked on before he finally settled down at Winslow, Arizona, on the A&P, to "grow whiskers" and think seriously of his future; but I do recall him as a throttle artist as well as a friend. For one thing, he helped me to get off to a good start. I am sure that this fact had something to do with my ability to endure the sixty-one hours of rawhiding which I'll tell you about presently.

Harris and I were the youngest crew in point of seniority in the freight pool, running in Arizona between Winslow and Seligman with engine 780, a Richmond hog. Now, in those days, regular locomotives on the old A&P were regarded almost as personal property by the men who handled them, and Harris was no exception. One bitterly cold night, coming east, we got a message ordering us to exchange the 780 at Ash Fork for an engine used out of there in helper service on Supai Mountain. The power engaged in helper service was pooled. We drew the 239, a junk pile that was being sent in to Winslow for a boiler washout and badly-needed repairs. This change irritated Harris. From the time we left Ash Fork until we pulled into the Flagstaff siding to meet train Number 3, the ex-boomer exhausted a large vocabulary of cuss words in expressing his opinion of the dispatcher and the engine he was stuck with.

While we were waiting for Number 3, Harris decided to repair the cylinder-cock rigging, which did not work, and told me to operate this from the cab while he checked it from the ground. Not being familiar with the engine, I inadvertently pulled the Sweeney valve lever, which I left open, before I found the similar valve to the cylinder cocks. Our locomotives had no electric light—merely an oil lamp for the steam gage and another on the water glass. When Harris returned to the cab he did not notice, in the semi-darkness, the misplaced lever at his feet.

The "Sweeney" consisted of a pipe leading from the steam-chest saddle to the main reservoir of the airbrake system, with an angle-cock and check-valve opening toward the reservoir. The angle-cock

was operated from the cab. If opened when the engine was drifting and in reverse, the locomotive cylinders would pump air directly into the reservoir.

This apparatus was helpful in the event of the airpump overheating or, for any reason, being unable to maintain pressure on a grade. However, due to the high temperature of air it delivered, with resulting condensation, its use was frowned upon except in a real emergency. Another objection to the rig was the likelihood that a leaking angle-cock would let steam pass to the reservoir and, if noticed, would allow condensed steam to enter the brake system. Most of the A&P engines in mountain service around the turn of the century were equipped with the apparatus.

After Number 3 had arrived we started for Winslow, fifty-eight miles away, with an order to meet an extra west at Cosnino, a blind siding about eight miles east. The extra was to take the siding.

Leaving Flagstaff, the road was pretty level for five or six miles, requiring the use of steam; but from there on a heavy down grade would permit a train to coast almost to Canon Diablo, twenty-five miles of hill, which called for good braking power to keep a train under control. About two miles west of Cosnino, Harris applied the brake valve to slow his train and stop if the extra was not in the clear. When he did so a mixture of air and water came from the brake-valve exhaust port. There was no brake application nor any reduction in our speed of about twenty-five miles per hour. He promptly "wiped the clock" and whistled for hand brakes.

The head brakeman left the cab and began setting "binders" on the train, while I twisted the tender brake as hard as I could with the coal-pick handle. By then we had passed the Cosnino mileboard, and Harris yelled for me to jump if the extra was not in the clear. However, I sat glued to my seat, too scared to do more than watch for the siding and the extra. Fortunately, their train was clear of the main line and their headlight covered; and we whizzed by them, to quote Harris, "like a cat hit on the back with a bootjack," and down the track.

WINONA, the next siding, lay about six miles east. This was an open telegraph office which extra trains seldom passed without being stopped for orders. All three of our train crew were out on top frantically setting hand brakes, but speed was close to forty miles an hour and stopping at Winona was out of the question

To add to our troubles, the main crank pin on the right side was smoking hot; Harris expected it to break the brass at any instant. The 239 and her class had been built for heavy grade service and possessed the smallest drivers I have ever seen on a road engine. A card in the cab stated that the speed limit must never exceed twenty-four miles per hour. This rule was generally observed, as these engines threatened to tear themselves apart at higher speeds.

We took the curve just west of Winona in a series of jerks. Later, we both were surprised to find ourselves still on the rails. The driving rods and boxes were pounding so badly that it seemed as though the cab would be thrown off the engine frame; and the coal had jolted down from the tank to cover the deck, with streams shaking from both of the gangways. Around the curve we saw the order board at clear. This reassured us somewhat, until we thought of the one at Angell, the next siding east and about five miles down the hill.

The hand brakes were now reducing our speed, but we were still traveling like the cat ahead of the bootjack, with no probability of getting stopped before we hit the flat country west of Canon Diablo. All this time Harris had been alternately pumping up his air and discharging it in emergency position, but more water than air seemed to come from the exhaust port. As the temperature was about twenty below, he thought the whole brake system was frozen.

Approaching Angell, the track was fairly straight. From a mile away we

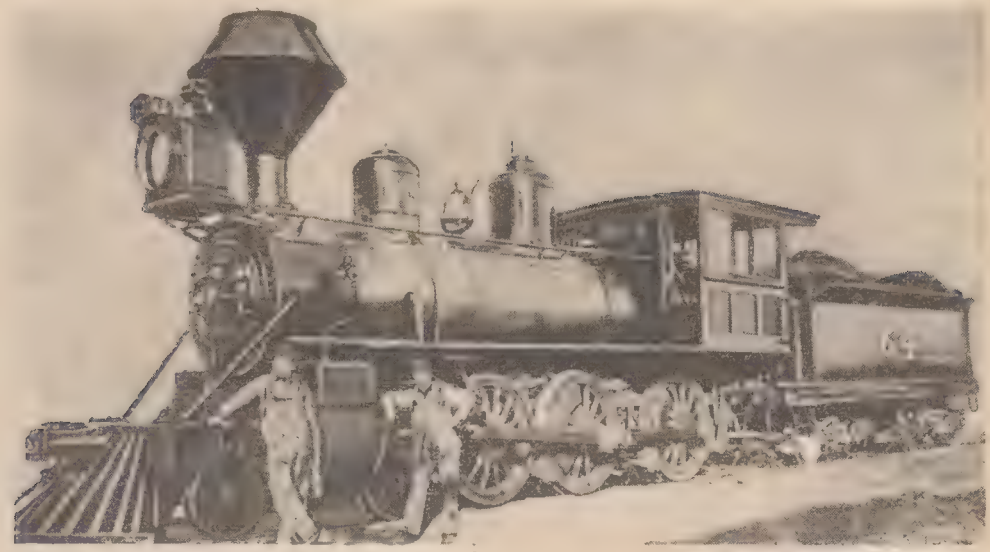


Photo from Joseph Lavelle, 4615 66th Street, Woodside, Long Island, N. Y.

DIAMOND-STACK ERA, as typified by A&P 64, has often been referred to as the period of "wooden cabs and iron men"

could see that the order board was red as blood and a headlight was coming toward us far down on the main line. Harris made another emergency application, and for the first time since he had stopped at Flagstaff we felt the engine brakes take hold.

We rumbled past the order board much too fast for comfort. However, the brakes were now holding hard; and we pounded to a halt, just barely clearing an extra as she pulled through the east switch into the siding.

After we stopped, Harris and I sat still on our seats, looking at one another, speechless with relief. I was shaking like a leaf. I doubt if I could have stood on my feet had I tried.

Presently Bill Bromley, our conductor, climbed up on the engine to find out what had happened to the air. Harris told him the Sweeney was leaking and our train brakes were full of water and ice. Thereupon all hands started to open drains on the cars and engine. Most of these were plugged by ice. The fusees we used to thaw them out made the train look afire from end to end.

As we were doing this, the thought that I might have opened the Sweeney occurred to me. Sneaking back to the cab, I changed the lever to the position in which I had first found it. We discovered several air hoses and reservoirs frozen, but after a time we had the brakes in working order.

Meanwhile, Bromley had gone to the telegraph office for the orders. There he waxed indignant over the fact that the dispatcher had not put out the meet order for us at Winona instead of giving it to us where he did. The rulebook was explicit on this point, and the dispatcher was put on the defensive by Bromley's caustic remarks.

"The operator must have been asleep," said the DS. "I couldn't raise him till after you had passed Winona."

Had the dispatcher known how fast we'd flown through Winona and the reason for our speed, I don't think he would have done any explaining. However, Bromley was enabled to draw a nice red herring over our trail.

After taking water and doping the crankpin, we continued our trip to Winslow without incident. When we arrived at the roundhouse there, I relieved my conscience by telling Harris that I was responsible for our wild ride. He gave me

a voluble cussing; but, probably thinking I had learned a lesson I was not likely to forget, he never mentioned the matter again.

FOR SEVERAL MONTHS I was in the pool with Pete Harris. Then I bid in a helper run on Supai Mountain, firing for a typical Westerner named Gene Brown. This eagle-eye was in his early sixties, over six feet tall, with a lean hard body. His endurance could put many a younger and softer man to shame. Brown had been a deputy marshal for years and was a crack shot with rifle or Colt "six-gun." He taught me much that I needed to know about locomotives.

The mountain was a twenty-one-mile climb east of Ash Fork, with a varying grade of two to four percent. For several miles where the right-of-way followed a canyon, the road had been blasted from it. At many places there was a sheer drop of hundreds of feet on one side, with cliffs rising straight up perhaps fifty to two hundred feet on the other.

On a certain morning we had helped Number 8, the fast mail, up the hill and were returning light to Ash Fork and breakfast. About three miles above Fairview, the steam valve on our airpump broke and Brown quickly came to a halt. At that time the company had no rule requiring a third man on an engine running light over the road, and all freights were doubleheaded. Brown told me how to protect our rear.

"Stay out till something comes along," he said. "Stop them and explain to the engineers, so they can couple into us and take us down the hill."

Sunrise was just beginning to flood the mountain top. I walked back a short distance from the engine, with red and white lanterns, torpedoes and a red flag, and put a torpedo on the rails. Then I proceeded further back, say about a mile and a half, placed two more torpedoes on the steel, and waited. I was hoping that Number 33, which was almost due, would be "on the advertised."

Seating myself on a huge rock, I admired the scenery. The pink flush of dawn made a gorgeous picture of the valley hundreds of feet below. Presently I felt uneasy. I knew not why. Then I happened to look overhead and saw the head and shoulders of a mountain lion peering from the cliff fifty feet above. The brute seemed to be measuring the distance it would have to jump to reach me.

I was still very much of a tenderfoot and had never before seen a live cougar, although I had heard some blood-curdling stories about them. Panicky, I started running up the track, forgetting my lanterns but still carrying the red flag without being conscious of it. After covering some distance, I glanced around fearfully, to see if I was being chased. I saw no sign of the animal and began to breathe more freely. Then, looking along the cliff, I saw it again and in the same relative position.

An engineer named Tom Blackwood was running the head engine on Number 33 that morning. His first glimpse of me was a badly scared youngster tearing up the track toward him with a red flag in one hand. In the belief that this was a case of short flagging, Blackwood slammed his brakes on in emergency and stopped his train but a few car-lengths beyond me.

When I climbed into his cab, I was still scared and breathless. He asked what I was flagging; and as soon as I could talk I blurted out, "Mountain lion." Of course, there was no sign of the animal by then, but I gave a detailed account of my narrow escape. As an afterthought I mentioned the engine that was stalled on the track ahead of us.

Well, for a long time after that I was kidded about flagging mountain lions, and the nickname of "Wildcat" has stuck to me ever since.

I HAD BEEN FIRING in helper service on Supai Mountain for about a year when I was "bumped" by an older man and I returned to Winslow to take a turn in the freight pool with "Grandma" George McKim on engine 780. While McKim was congenial to work with, he

could use more water, burn more coal and chew more tobacco per ton-mile than any other eagle-eye I ever knew. The 780 was a Richmond consolidation type with two outstanding virtues, a free steamer and the riding qualities of a Pullman car. Shortly after our assignment together, Grandma transferred to the Southern California Division; but before we parted we made a winter trip I'll never forget.

An exceptionally long spell of very cold and snowy weather had slowed up the entire Atlantic & Pacific system. Late one afternoon, chilly and gray, we completed a tough thirty-hour trip by arriving at Seligman, our western terminal. It was not exactly good news to learn that we stood first out on the board. Nevertheless, we refreshed ourselves with a hot wash and a big hot meal, and were registering for a room with the idea of getting a sound sleep when the callboy dashed our hope by nabbing us for an orange train to leave in an hour.

As was customary in such cases, we put up a loud argument against going until we'd had some sleep; but as was also customary, the Yardmaster had a better one. On his assurance that we would run as a "fruit extra" on a train-order schedule with right over all except first-class trains, we signed the book. After getting the schedule order as promised, we started with thirty-odd cars and two dependable locomotives, the 780 and the 775, the former in the lead. Covering the twenty-eight miles to Ash Fork, we picked up two helper engines there and cut them in ahead of the caboose. It then appeared that we would cover the division in about seven hours, which was the minimum in those days.

Twelve miles up the hill you came to a tunnel, possibly a thousand feet long and curved its entire length. It was lined with boiler plate and, despite the short length, was the hottest and gassiest rat-hole I've ever known. Fifty feet beyond the west portal a steel trestle carried the tracks over a canyon two hundred feet wide and half as deep. When our engines were well into the tunnel our brakes suddenly set in emergency, stopping them near the center of the hole. The safety valves of both boilers opened at once, filling the bore with steam and the smoke that belched from both stacks.

Leaving the brake valve in emergency position, Grandma and the head brakeman and I got down from the cab of the 780 and started to run for the west portal. We met the crew of the 775 stumbling down from their cab in the darkness. Coughing and gasping, with our eyes full of tears, clinging somehow to one another, we staggered along for what seemed to me several times the distance it really was. At long last we reached the west entrance. There we lay in the snow until we had partly recovered the power to breathe normally. We all had real pains in our lungs for some hours later.

Presently the brakeman picked up his lamp and started toward the rear to see what was wrong and if we had broken in two. We watched his light as he ambled along the catwalk on the south side of the trestle. He stopped about midway and yelled to us that we had "pulled a lung" and the drawbar was on the ties.

Well, we found that the draft gear was broken on the forward end of the car. This meant chaining to the car ahead and, after uncoupling from the car to the rear, dragging the head end of the train to Chalender, a blind siding four miles up the hill, where we could set the cripple on a spur.

As soon as we stopped, Peter Boyd, our conductor, began walking forward from the caboose, looking for the trouble. He located a bursted air hose about five cars from the rear. This hose had caused our trouble by setting our brakes in emergency from the rear as it burst, the two engines snapping the drawbar farther ahead.

After replacing the hose, he walked up to where we sat, still coughing, figuring the easiest way to get the mess cleared up. The first move, of course, was to get the engines out of the tunnel and the crippled car chained. Boyd hiked back to the helper engines and explained the situation to the crews. They hauled the rear end, including the crippled car, off the trestle and

several car-lengths beyond, to allow the head end of the train to be backed completely out of the tunnel.

SNOW had been falling heavily since we left Ash Fork. A bitter wind blowing down from Williams Peak added to our woe, although it helped somewhat to clear the air in the tunnel. However, the rathole was still smoky and full of gas when it became time for Engineer McKim and me to go to the 780. We decided there was no need for both engine crews to enter the "black hole of Calcutta," as it was only necessary to give the cars a start and they would roll freely on the heavy grade as soon as the brakes were released.

So, with bandanas wrapped over our mouths, we penetrated the danger zone. In our hurry to get off the 780, I had left my injector on. Bill Condon, fireman of the 775, had done the same with his engine. We found the boiler of the 780 full to the dome with water and the injector no longer working. Shutting it off, I climbed in the cab of the 775 and discovered the same condition there. I turned that injector off also. Then, reversing the 775, I tried to whistle McKim to back up, but the boiler was so full of water that the whistle was useless.

I had to climb down again and up on 780 to tell Grandma to back. By now I was very groggy. Getting up in the cab of our engine, I found McKim almost helpless and unable to work the Johnson bar. However, with my help, he got it over and, releasing the air, we started to move.

Our cab lights were out. We had no idea of either our air or steam pressures. Frankly my only thought was to get out of that hell-hole and not how we would get stopped. When we drifted to the mouth of the tunnel, Grandma set his air and we halted with both engines on the trestle, but not until we had used the rear of the train as a bumping post. Luckily, no damage was done, except to smash the broken draft gear a little more.

We spent the next half hour blowing the water out of the boilers down to working level and getting our fires in shape. Meanwhile, by using the helper engines, Boyd had chained up and cut the rear end off, so we were soon on our way to Chalender.

When we got there and had the cripple set in on the spur and our cars in the siding, we found, as anticipated, that we did not have enough water to go after the rest of our train. This meant leaving everything and running to Williams, three miles over the summit, to get our tanks filled.

Supai, at the top of the hill and four miles from Chalender, was a day and night telegraph office, with a siding and wye for turning helper engines. Upon our arrival at Supai, the order board was out and westbound Extra 661 was in the siding. Explaining the situation to the dispatcher, we got a clearance and went on to Williams for coal and water. When we returned to Supai, we were given an order to meet Extra 661 west at Chalender.

Dropping down to where we had left our rear end beyond the tunnel, we coupled on and, after calling in our flagman, who had spent nearly four more or less pleasant hours out in the storm, we again got rolling up the hill. It was daybreak now, and still snowing. Any ideas we had had of a hotshot run were long since abandoned. Although we were not coughing much, we were all suffering with sore lungs from the gas we had inhaled.

At Chalender the 661 had backed their train in, leaving our head end ready to be picked up without any trouble. As soon as we cleared the west switch, they left for Fairview, the next siding down the hill, where they planned to meet Number 8, the *Frisco Mail*. When we were ready to go, Boyd came up to say we'd have to get in the clear, as the helper engines had to run to Williams for water and he wanted to send them ahead of Number 8.

This suited me, as I had visions of a good sleep while they were gone. However, after we were in the siding and I started to bank the fire, I found several flues leaking in the firebox. This meant keeping a hot fire with the blower on while we waited there, otherwise the leaks

would get so bad by the time we were ready to leave that it would be impossible to keep steam up. So I had to stay awake.

At length we tackled the hill once more. When we reached Supai the flues were perfectly dry and things looked a bit less depressing. We took siding at Williams for two passenger trains, Numbers 1 and 7, and all hands piled into the lunch counter there to break a ten-hour fast with everything on the bill-of-fare.

After the "royal gorge," we left Williams, following a snowplow pushed by two engines. The plow train had orders to turn at Flagstaff, as the snowfall east of there was fairly light. Coming into Belmont, ten or twelve miles east of Williams, we picked up their flagman. This fellow imparted the cheering news that the plow and both locomotives were derailed at the west switch of the siding.

When we pulled up to the scene, the 780 was cut off from our train and for the next hour we pulled the rear engine of the plow train over ties and rerailing frogs until we had her on her feet again. Then another long wait ensued till that engine had done the same thing for the other. Finally, after repairing the track, we went along without any more mishaps to Winslow. We arrived there after sixty-one hours of the toughest kind of rawhiding. We were utterly exhausted, cold, and hungry, but with the consciousness of having done a good job of railroading.

This was a far cry from the present Diesels and oil-burning battleships that blast their way over the same stretch on the Santa Fe, hauling double the former tonnage in half the time or less. Grandma McKim has passed on, Bill Condon was killed by a fall from the same trestle on which our train broke in two, and I have lost all trace of Billy Weeks, who ran the 775 at that time. If Billy should read this, I wish he'd write to me at 231 West 230th Street, New York City. In fact, I would like to hear from any of the lads, now grayheaded, who rawhided over the old A&P around the turn of the century.

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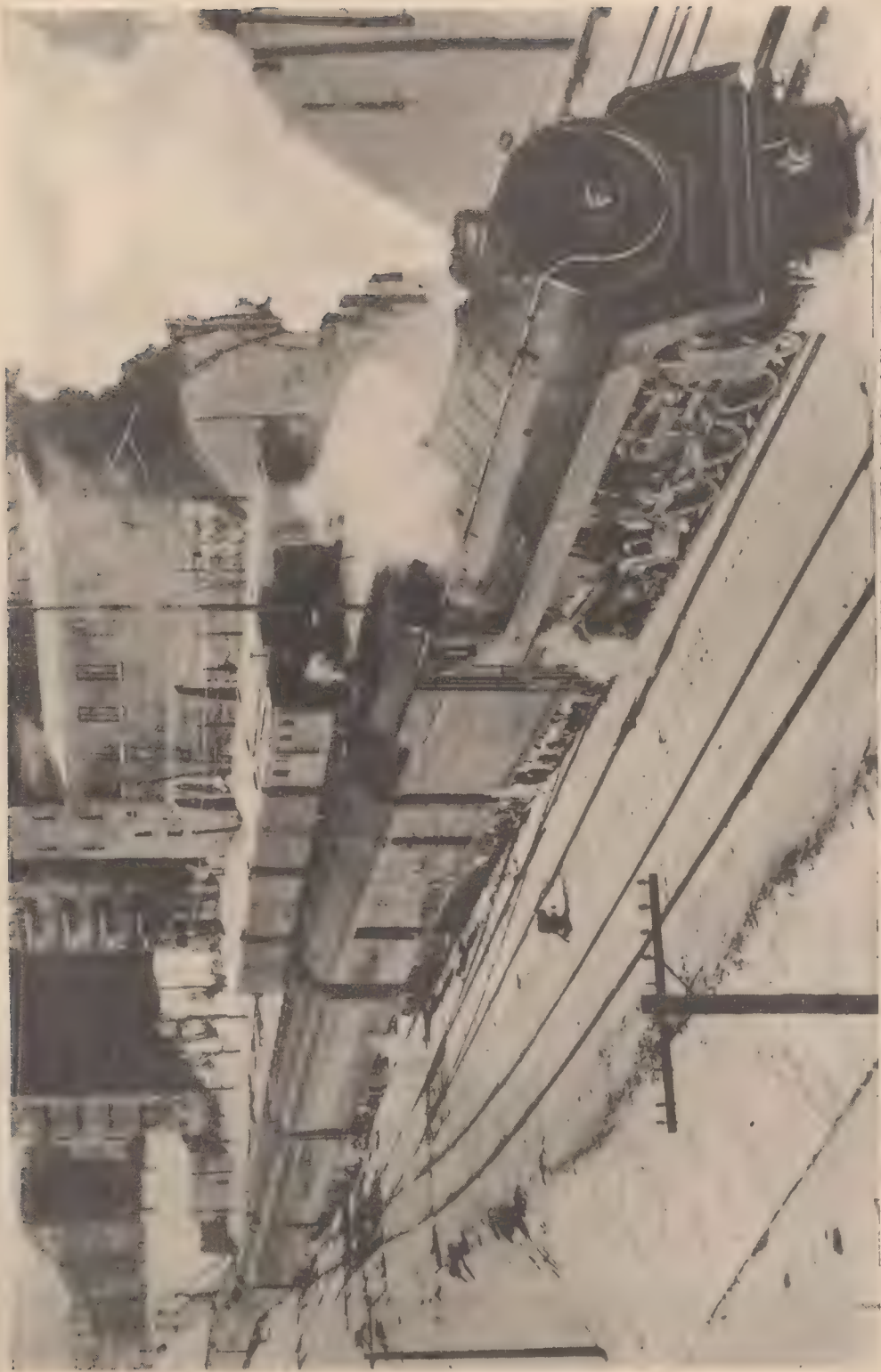


Canadian Pacific troop special, engine 2827, arriving at Montreal. (Railroad Photographic Club, 47 Royal St., Allston, Boston 34, Mass.)

What Is a Train?

By E. T. PARKER

Illinois Central Train Dispatcher

APPEARANCES, we are told, are often deceptive, as in the cases of the wolf that wore a sheep's skin and the train that runs without markers. I need not remind you that markers are the flags (cloth or metal) or lamps (lighted or unlighted) that are placed on the last car or caboose to show the train is complete. The rule concerning the use of markers is one that is strictly followed.

Coming to the question, "What is a train?" reminds me of the day in 1924 when a certain group of Illinois Central men, myself included, had been called in for re-examination on the book of rules. "Uncle Ike" Westfall, who was not anyone's uncle in particular, made the sad mistake of occupying a front seat in the examiner's coach. Ike had come to the examination class fresh from his run on the south passenger local, still wearing his conductor's uniform. The stars and bars on his sleeve denoted nearly a half-century of service, most of it on a branch line. With one passenger and one freight train a day, running on schedules that made train orders unnecessary, Uncle Ike's knowledge of rules was limited to those that had of necessity been fulfilled by daily habit.

So it came as a more or less mental shock to him when the rules examiner pointed a finger and asked Ike to give the definition for a train.

"Me?" Ike responded.

"Yes, you," the examiner shot back at him. "What is a train?"

"Well, let's see now," the conductor stalled. "A train is a—"

That is as far as he went. Ike knew perfectly well what a train was. Like everyone else, he had seen plenty of them. He had even run a work train building the very line they were now on. Two missing fingers on his right hand tagged him for a link-and-pinner. He was familiar with every low joint on the sixty-seven miles of branch line that was his domain, but now he had to give a literal definition. Well, he stalled on the first hump.

"What is a train?" The examiner's eyes still searching Ike's for an answer.

"A train," Ike was making a final desperate attempt, "is just an engine with cars."

Then he settled back in his seat with a self-satisfied thought that he had made that hump. But his minute of ease was rudely broken by the examiner saying:

"You don't know the rules very well, do you?"

Ike's face, flushed with embarrassment from questioning, became redder still as anger brought a quavering rejoinder:

"Listen here, young feller, I want you to understand that the rules have changed a lot since I went to work here more'n forty years ago."

The clean-shaven examiner joined with the rest of us in a good laugh. Even Ike chuckled a bit, not knowing exactly why. It cleared up an embarrassing situation for Conductor Westfall, but it still did not answer the question, "What is a train?"

Your rulebook defines *train* as follows: *An engine or more than one engine coupled with or without cars, displaying markers.*

The essence is those last two words "displaying markers." Some people, seeing a string of a hundred or more cars, would declare they had seen a long train. However, unless that string showed markers, they would be wrong, technically speaking. Or someone might see a lone engine drifting slowly down the pike, but, missing the unlighted lamps stuck on a bracket at the rear of the tank, would not realize he had seen a full-fledged train.

Photo by L. Routledge, 4631-B, S. Lake Park, Chicago 15, Ill.

DIXIE EXPRESS, doubleheaded by C&EI engine 1015 and C&O 466, about to pull out of Dearborn St. station, Chicago

An engine displaying markers is, of course, a train.

Fortunately, Uncle Ike was not running First 78 when she pulled in on a siding a few years ago, holding orders to meet an extra west, a hotshot loaded with Government material and late on the schedule.

Orders said First 78 would take siding, which she had already done and was patiently waiting for the extra to show. The train dispatcher had not foreseen the extra water stop that the hotshot had made, and so the eastbound drag had been in the clear for some time before the extra's headlight showed over a hill.

First 78's crew expected to get delayed, but what they didn't expect was the extra west roaring by without a caboose and no markers displayed. Staying in the clear on the siding, they wondered what had happened to the rear end. Familiar with the definition of *train,* the crew of First 78 knew that the extra west that had gone by at fifty miles per hour failed to live up to the requirements.

It was well that they stayed in the clear instead of going on, for the extra west's rear end was standing on the main track at the foot of a grade just over the knob a couple stations beyond.

When she stopped for water, a knuckle had worked open, causing the extra west to break in two. The break occurred directly in front of the depot. Someone, not realizing the full consequences, had closed the angle-cock on the lead car of the break. The air pumps on the engine thereupon had taken hold, the air gage starting back up to full pressure.

Every indication on the head end showed that the break had been fixed. Whether or not a bobbing lantern had been taken for a highball, the hogger had whistled off and headed for the barn, not knowing his rear end was standing on the main track at the foot of a steep grade in a non-block signal territory. You can see what proper interpretation of the rule meant in this case.

In addition to displaying markers, cars must be coupled in order to constitute a train.

A Union Pacific train will leave Thayer Junction with a string of empties for the coal mines at Superior, Wyoming, with a

caboose on the rear. The steep mountain grade is dotted with mine shafts and marked with sidings. The train stops at these sidings to fill the daily orders.

It is different on the return trip. The train, now hauling fifty or sixty loads of coal, creeps slowly down the mountainside, brakes screeching and squealing on the curves. There is no caboose, and the rear car displays no red flag or markers.

High up the mountainside at Superior, sitting in the agent's office, we find the veteran conductor apparently unconcerned about his train that is slowly slipping away down the mountain. A tall stack of waybills is piled neatly on the desk in front of the agent as he pounds the mill to finish the last of the day's billing.

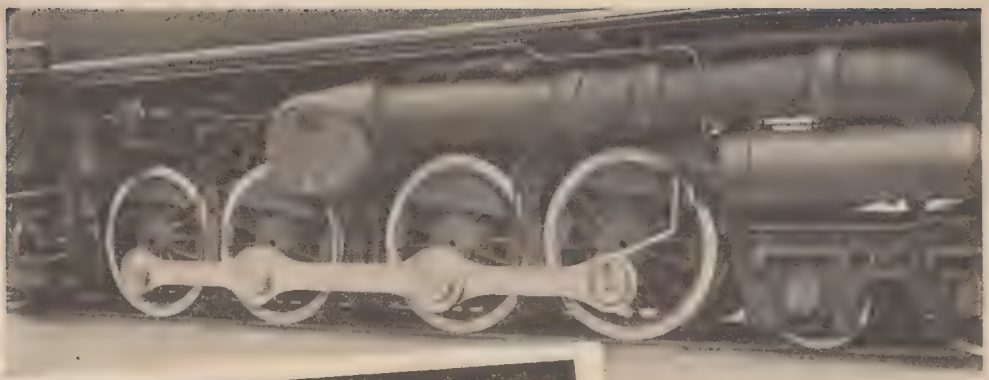
The caboose is there, too. Standing directly in front of the station, it is held securely in place by a tightened hand-brake and guarded by the rear shack as he patiently awaits the signal to go.

Grabbing his last waybill, the conductor nods to a couple of pretty school teachers who have decided to ride the local down to Rock Springs. Not until the passengers are safely seated does the brakeman release the hand-brake. Wheels slowly start turning and the solitary caboose is on its way to join the rest of the train. Bracing one foot against the platform, the shack keeps a steady pressure on the hand-brake. They could go for a merry and fast ride down the steep iron trail if he would let her go. But holding a firm grip on her they descend the mountain grade.

A white trail of smoke marks the path of the head end as it slowly drifts on ahead. Drawing close to Thayer Junction, the caboose that has long ago passed the runaway track has caught up and slowly couples in with the loaded string of coal. Only a slight jar is felt by the two passengers as the coupling is made and the requirement of a train is fulfilled —an engine with cars, coupled, displaying markers.

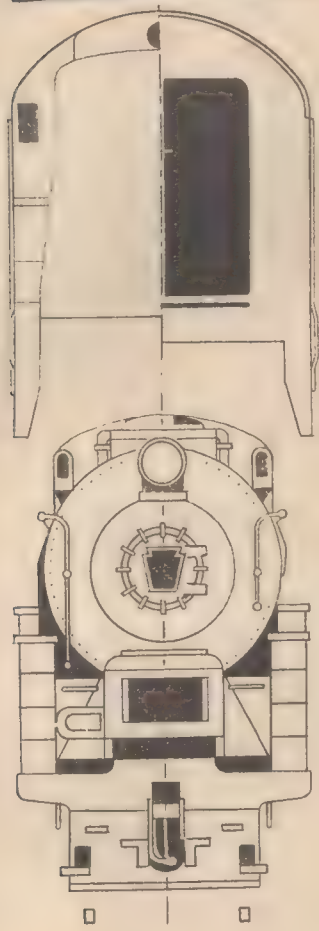
Photo from J. M. Gray, Box 508, Little Rock, Ark.

SNOWSCAPE of Rock Island train rolling into Little Rock, Ark., made with Speed Graphic camera set at F-11



LATEST hush engine of the Keystone fleet, the 6200 is big and impressive, simple in outline and flexible enough to take the sharpest curves with ease. Old-time modelers will like her novelty appeal; newcomers, her freedom from hard-to-explain rotating parts and valve motion.

MAIN TURBINE producing power for forward motion, is on right side of the 6200. Note unusual form of diagonally opposed driving wheel clasp brake and crank to operate lubricator



OO-Gage Steam

WHILE the specifications of the Pennsylvania's S-2 locomotive pictured on pages 64 to 67 have not yet been released, a careful checkup of features used interchangeably with other PRR types has made it possible for us to bring you basically accurate plans. Here is an engine designed for through passenger service which ranks among the largest in the country, yet has a rigid wheelbase no greater than that of the average mountain type. Her simplicity of design accentuates, rather than diminishes an effect of size and power. The unusually large boiler, built to deliver steam to the turbines at a pressure of 310 pounds to the square inch, has a Belaire firebox made to order for the modeller

REVERSE TURBINE on left side has smaller exhaust pipe; also an independent throttle rod. Clutch-engaged, it can move the engine backward at speeds of up to 22 miles per hour

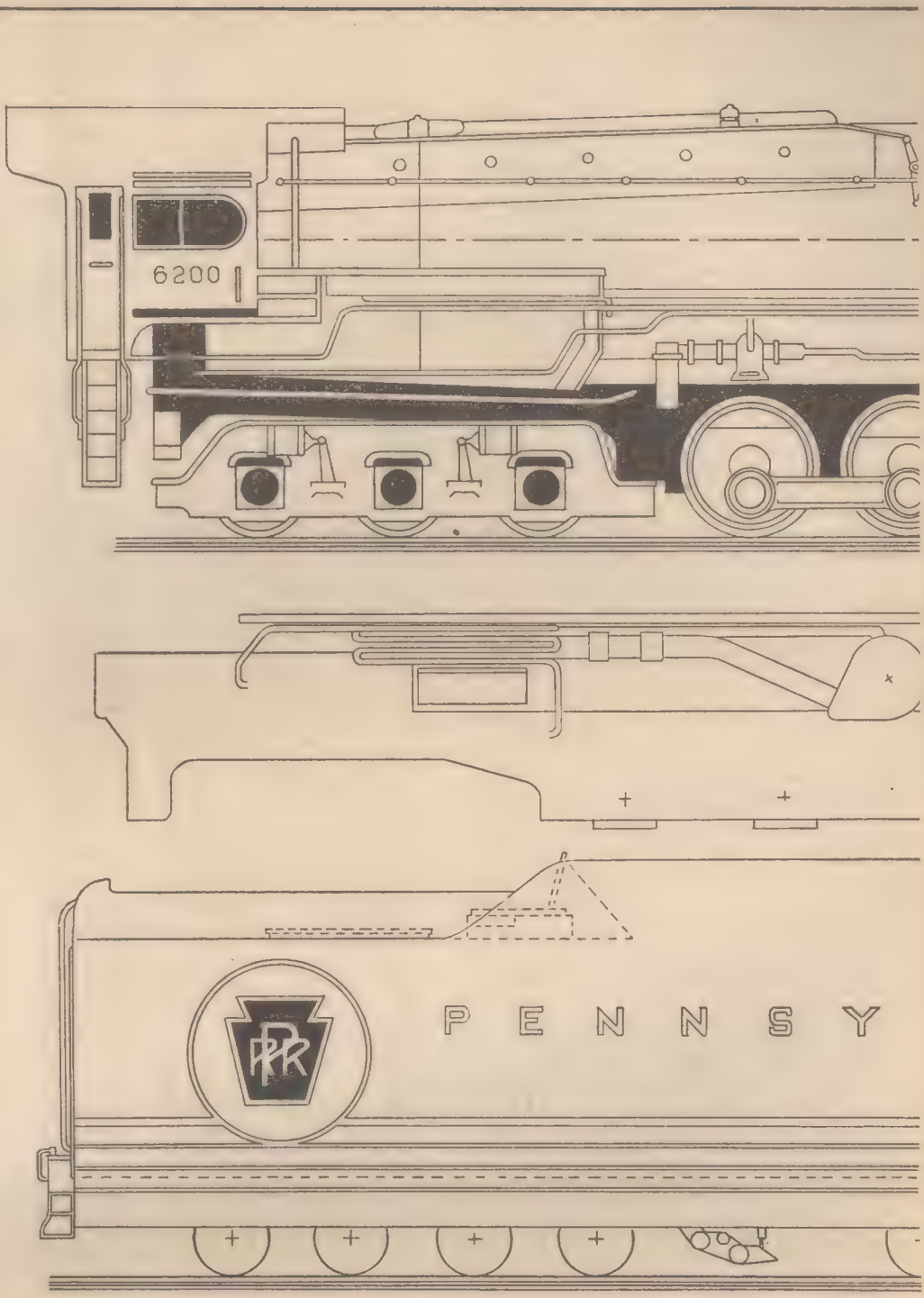
Turbine Locomotive

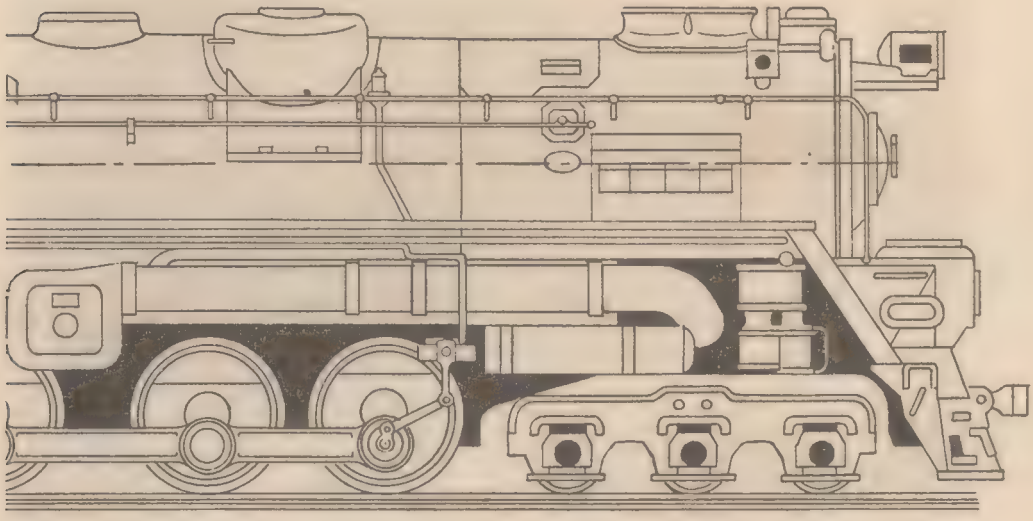
By the NUT-SPLITTER

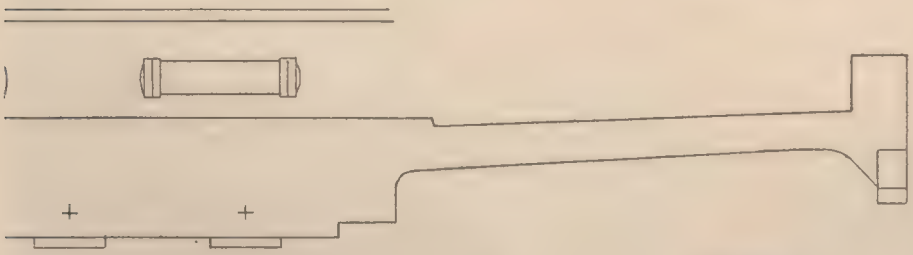
who wants to put plenty of motor in his replica. It's a safe bet, then, that her scale performance can be made to out-match that of the prototype, which is reported to develop 6900 horsepower!

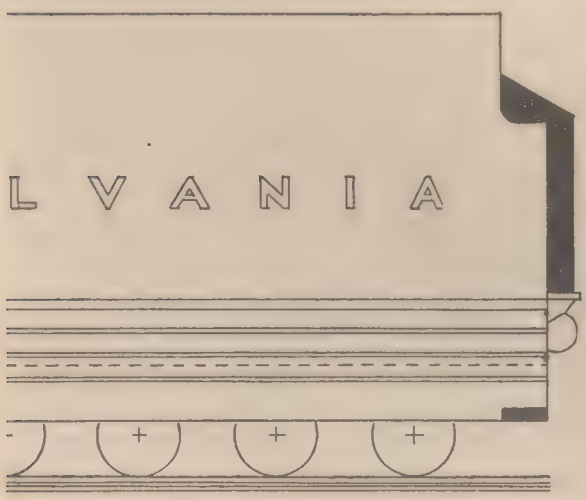
Note that we have indicated striping and keystone on the tender, in accordance with T-1 practice, inasmuch as the engine bore no identifying features at the time the drawing was prepared.

Finished in a bottle green, with a black smokebox, white running-board mouldings, gold lettering and Tuscan red heralds, S-2 will be the queen of any motive power fleet. All drawings are scaled for 00-gage (4-mm. to the foot), but they may be photostated to other gages.


6200
PENNSY



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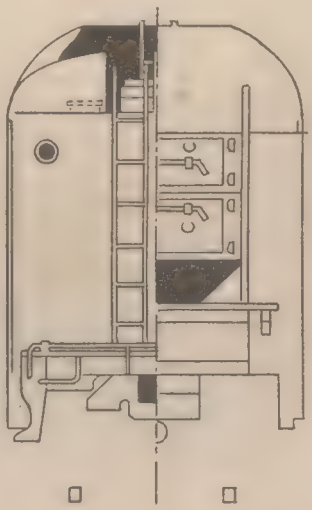

On the Spot

Photo by Richard H. Kindig, now in U.S. Army

HELPER engine, Union Pacific 3536, near Pleasant Valley, Ore.

Railfaring Men Sit in with the Editorial Crew to Swap Experiences, Offer Suggestions and Settle Arguments

GM&O REBEL ROUTE, our leading feature in last month's issue, has real educational value, according to B. M. Sheridan, the Gulf, Mobile & Ohio publicity director.

"That article," he says, "covers the GM&O from start to present time, filling a great need for such a document. Just recently we began preparing information designed to give our new train hostesses an idea of the road's historic past, so they could answer questions on the subject. We need look no further than Stuart Covington's article."

As Covington pointed out in the GM&O write-up, the system is famous for a courtesy policy instituted by its President, "Ike" Tigrett. The latter tells an amusing story about this campaign. It seems that when Ike was touring the road, making speeches to employes and public, a conductor inquired:

"Look here, Mr. Tigrett, just how far shall we go in the matter of politeness?

"One day last week an old lady and little boy boarded my train. When I got around to taking their tickets I found the child bawling; so, remembering your advice about making friends with the public, I gave him a bit of gum. Then I said to the lady: 'Madam, won't you have a piece, too?' And she replied: 'Well, I don't care if I do; but I have no teeth, so you'd better chew it for me.' "

* * *

LNER LONG WAIT. From Thomas Dagg, stationmaster for the London & North Eastern at Kirkbank, Edinburgh, Scotland, comes a tale of pathetic loyalty. Mr. Dagg was prompted to write this, he says, by reading in *Railroad Magazine* the true story of *Shep*, the sheepherder's dog, who waited for years around the station at Fort Benton,

Mont., because it was there he had last seen his master. The sheepherder had been taken away from Fort Benton to a hospital, where he died. *Shep* met every train, looking for his master. After each train departed he slunk away to brood under the platform until the next one came along. Finally, aged and partly blind, the dog was no longer able to gage distances and was killed by an engine. Townspeople, led by the mayor, buried him on a slope overlooking the depot.

"This incident," Mr. Dagg reports, "reminds me of days long ago when I was a ticket collector at Edinburgh Waverly station. Whenever I was on duty at platform 13 I would see a certain man standing outside the platform gate, as if waiting for someone who never arrived. One day I inquired as to who he was, and learned that during the first World War the man's brother had gone to France from platform 13, but had never come back. Refusing to admit the likelihood that his brother had died in France, the solitary figure kept haunting that platform for six hours daily, hoping to greet his long-missing kinsman. Sixteen years have passed since I left Edinburgh Waverly; and as far as I know, he is still there."

* * *

RAILDOG. Like many other rail yards in the States and Canada, the SP garden at Wilmington, Calif., has a canine mascot. We learn from Harold D. Cooper, 481 Hartford Ave., Los Angeles 13, that a year ago a car tink named F. E. Williams found a small brown mongrel puppy that had been abandoned and fixed up quarters for the animal in his yard shanty. There, Harold tells us, the pet has grown almost to be a shadow of Mr. Williams, deserving his name *Junior*. He rides engines, inspects trains, and in general acts like a rail veteran.

* * *

NARROW-GAGE operated by the Milwaukee in Iowa, as mentioned by J. Arthur Glattly in November issue, was the Bellevue-Cascade branch, comments A. J. Kramp, 270 Cooper Ave., Elgin, Illinois.

"This line must have died out in the 1930s," says Kramp. "I myself saw it operating in 1920, and the *Official Guide* of Dec. '34 showed it on the Milwaukee map but gave no timetable for it. And now I'd like to ask if any reader can tell me when the Palatine, Lake Zurich & Wauconda slim-gage was abandoned."

* * *

MUDHOP. If you're looking for the typical car checker, don't pick Della Axford. She's the only girl on the Union Pacific graveyard shift of terminal No. 4 yard at Portland, Ore. But for real enthusiasm this attractive 17-year-old rates high.

Della

"My duties," she writes from 6032 N. Omaha Ave., Portland, "consist in checking freight cars for the name, number, kind of car, whether a load or an empty, the length and capacity, and designating the tracks they're on. Fogs cause most trouble in doing this checking. On such days I can't see two feet ahead, and it's as though I walk miles, hunting freights that should be, but just aren't there."

Though only five feet tall and weighing a mere 100 pounds, Della has no trouble with snakes, stingers or cinder dicks at the terminal. Armed with a sharp

Angus Sinclair Said It

AS A CLASS, railroad managers in this country have displayed sad lack of sentiment toward articles possessing historical value. Utilitarianism is so rampant among managers that the scrap heap has swallowed thousands of things that would form valuable educational mediums. These are the kind of men who would readily melt the Liberty Bell for the metal it contains.

—Development of the Locomotive Engine

Photos by Lad G. Arend

ONCE-BUSY station at Idaho Springs is now a storage shed, while old C&S engine and coach stand on rusted rails

tongue and a heavy lantern, she has demonstrated her ability to hold her own.

"What fascinates me most about yard work is watching the engine crew switch and spot the cars," she says. "The way these men handle them seems to be an art. Things happen here to make every night different. I like my work, and the people. Being the only girl on the shift, naturally I'm the target for so-called masculine humor."

This young mudhop is the fourth generation of railroaders in her family. Her great-grandfather, the late Johnny Axford, was a boilermaker in the Denver & Rio Grande shops at Salida, Colo. Her grandfather, the late Dr. W. J. Axford of Missoula, Mont., was a Rio Grande brakeman. Her father, Harold Axford, also worked on the Rio Grande at Salida, was a timekeeper four years on the Northern Pacific at Missoula, and now is a feature editor on *The Oregon Daily Journal.*

* * *

LANDMARK of a glorious past, an ancient engine and coach that may never move again recall days when the then narrow-gage Colorado & Southern passed through Idaho Springs, Colo., 7540 feet above sea level. The roadbed is now the town's main street. A situation of this kind is rather depressing to "rails" such as Lad G. Arend, short-line boomer, Car *Chama,* R.R. 2, Franklin, O.

Lad tells us that last summer, while on a vacation, he visited the old narrow-gage roads of Colorado and New Mexico, and journeyed to Idaho Springs to get a few shots of C&S engine 60 and coach 70, which now stand out in the open, on a tiny stretch of track, as a monument to departed glory.

"The day I arrived," he says, "I found the fire-fighters holding a convention there, and in honor of the occasion, the engine and coach had been given new coats of paint. Number 60 pulled the last scheduled passenger train from Denver over the Divide at Boreas to Leadville,

Colo.; but now the life is gone out of her. No more will her shrill whistle echo and re-echo from mountain walls to fade gradually in far-distant peaks. Coach 70, whose seats often carried miners, their women and their children, is now sadly in disrepair.

"Walking up the former roadbed to the depot, I found the latter as it had been when abandoned, with the order board still out. Instead of passengers filling the waiting-rooms, with freight piled on the house platform, the forlorn structure is now used as a storage shed. From there I continued my walk up Clear Creek along the old right-of-way for more than two miles. Not even a single tie was left. If I had not actually seen this railroad in operation, it would be hard for me to realize I was on the famous Colorado Central—or what remained of it."

* * *

NUT-SPLITTER in a South African power station, Dave H. Parsons, 4a 33rd St., Malvern, Johannesburg, thought we'd be interested in a report on that three-foot-six-gage country.

"We have some really big engines here," he states proudly. "Class 23 with her tender tips the scale at 215 tons (2240 lbs.). They're the 4-8-2 mountain type, have two 6-wheel bogie tenders which carry 18 tons of coal and 10,000 S. African gallons of water. SAR has some 4-6-2 American-built Baldwins, too.

"My house is not a half mile from the five-track main line between Johannesburg and Germiston. Often I take my four-year-old son to the tracks where we watch local steam-electrics start their 60-mile run along the Rand through gold-mine territory.

* * *

CRUDE TOOLS, wind and snow on the side of an 11,000-foot mountain were not enough to defeat a wrecking crew in their struggles to rerail an engine. Back in 1897, when this occurred, the Denver, Leadville & Gunnison (now Colorado & Southern) owned no crane. But ropes, slings, blocking materials and "a darn good set of men" did the job.

Charles C. Squires, 4808 Melrose Ave., Oakland, Calif., tells how this was done. Returning from clearing tangled wires at Dickey, Colo., where a runaway crummy and six cars of ore had plowed into the depot, Charlie heard of the accident. It happened on the Highline District in the Rockies at a point just west of Bird's Eye.

Here, tracks rest on a narrow ledge, with thin air the only barrier to a steep descent. The crew of a helper engine moving downhill had seen a broken rail too late to stop. Leaving the rails, the locomotive turned over on her side before dropping head-first into the valley 1500 feet below. Engineer "Curly" Culligan was thrown or jumped from his cab. But partially caught under the tank, he was carried along as she burrowed into the hillside. A hundred feet from the tracks, she stopped, still headed straight down. There she stayed until a crew could get out to her. Meanwhile, Curly was rescued.

"Dan Leonard, roundhouse foreman, led the rescue," Charlie goes on. "Armed with ties, timber, cables, bars and other equipment piled on a flat and in a boxcar, we started out. First thing we had to do was dig a large hole in the frozen hill above the track, just opposite the derailed engine, so as to bury an 'anchor' to hold our block and falls. When the train got in working position, I picked out a pole close to the four-wheeled caboose and prepared to cut a telegraph office into the conductor's sanctum. I had brought along plenty of insulated wire, so I could carry the old KOB (key on base) relay inside the car when the conductor wished to use it. Outside, it was too cold to be of much use.

"Two engines were ready to draw in opposite directions on the cables attached to the wreck. It took us two to three hours to get the tender back on the rails, but with the equipment on hand, rerailing the engine was another job. One cable was attached to a sling around the dome, another to the drawbar back of the cab. Then, after we laid a regular bed of ties along her left side to straighten her on, a steady strain was put on the drawbar to hold her on the mountain. By pulling on the dome, we gradually righted the engine until she was resting on her wheels. The drag now shifted to the drawbar cable.

"This sucess made us feel so good that one man wanted to release the line on her dome, figuring its purpose was already served. But Foreman Leonard decided to play safe. The strain of pulling was concentrated on the other rope, and the engine started to move up toward the track. Then we saw the cable part. With the good floor of ties under her, down into the valley plunged the engine, her bell clanging wildly. It seemed the end of her, till suddenly the cord on her dome drew taut, and she stopped pitching over on her side again.

"The setback was enough to dishearten a lot of men, but not the South Park wreckers. Once again we began the whole procedure, this time more grimly, for still the snow fell and the wind was sharp. It took us a long time to set her back on the tracks, but we did it. Work started before noon on the 14th of December, and at 1:30 a.m. on the 16th I cut the telegraph instrument out on a pole where the temperature hit 40 degrees below zero. There are a lot of my experiences as lineman on the DL&G I like to remember," concludes Charlie, "but this is not one I'd like to re-live."

* * *

LAND GRANTS in Indian territory blocked completion of the Atlantic & Pacific, which otherwise might have become the first continental railroad linking New York with Southern California. In 1871, when the A&P stretched from St. Louis to Vinita, Indian Territory, the Santa Fe was but a small Kansan line; except in the central valley of California, no road existed in southwestern United States. However, when delayed grants were given, other routes had been established.

"My interest in the A&P," writes Preston George, 612 N. Hightower, Altus, Okla., "is aroused by the realization that had it been built, Oklahoma would now be a-straddle one of the busiest transcontinental routes. Other lines follow the proposed A&P, but none have through traffic. And, since Santa Fe and Rock Island-Southern Pacific have their own lines east to Chicago, only the Frisco would be interested in the scheme now.

"The fact that the cross-country highway west of St. Louis follows the pro-

Photo by R. P. Morris, 1214 Gelston Ave., Brooklyn, N. Y.

ENGINES 7 and 4 on thirteen-mile Chestnut Ridge Railway

posed path confirms its being the most logical route. Eliminating all difficult mountain passes except Cajon on the western end, it is still 70 miles less than the shortest line. Yet the road with this plan, a head start on rival roads and a clear field, became bankrupt, and finally disappeared."

* * *

BRIDGTON & HARRISON attracted attention of two readers in this month's mail. First letter comes from Donald MacLean, 67 Vine St., Reading, Mass., who writes:

"On a recent trip through Hiram, Me., I noticed that the rolling stock of this two-foot-gage line had neither been carted to Alaska, sent to a Massachusetts cranberry bog, nor turned into the scrap drive. All three had been rumored. Instead, there it stands rusting away, near the tracks of the Maine Central between Portland and St. Johnsbury, Vt.

"Although the iron from Bridgton Junction to Bridgton has been torn up, there is still several hundred feet of rail in the yards. The spur tracks of the Maine Central, where freight used to be transferred from standard-gage cars to the small B&H cars, have been torn up; and the once busy station has been razed. Bridgton Junction does not even appear on the Maine Central timetable now.

"There is plenty of B&H equipment around, however, though much of it is in pretty sad condition. One locomotive—No. 8, built by Baldwin in 1924—has not been improved any by the two or three years she has spent outdoors. The other—No. 7, built by Baldwin in 1918—is in the engine-house and appears to be in better condition. Their tiny turntable is still in working condition, and the line's old snowplow looks as if she could still buck the drifts."

As for the other rolling stock, Don informs us there are two coaches, with their quaint single seats, and two baggage cars. Trucks have been removed from one of each of those. An old baggage car rests on its side in the bushes. There are stoves, more or less intact, in some of these, as well as in the one caboose—No. 101, built in Laconia, N.H., in 1882, according to an inscription on its side.

Of 16 boxcars, four have the sides knocked out half way down.

"The whole outfit makes quite a museum," Don concludes, "but there's no telling how long it will stay there. Latest report was that the cranberry bog man who bought the equipment would move it to his place in Massachusetts after the war. Here's hoping it doesn't all rot and fall to pieces in the meantime."

It's a long way to Assam, India, yet in

Photo by Benjamin Herman

CORNFIELD MEET. Reading Camelback No. 603 met the 1703 head-on two miles south of Sunbury, Pa., station April 9, 1928. Engr. Louis Wascher had overlooked an order and was killed

the same week Cpl. John B. Holt, Co. A 758th Ry. Shop Bn., APO 629, c/o Postmaster New York City, wrote to us about the same defunct pike, giving his version of the sale of this property. Early in 1941 the directors had about decided to abandon the B&H. John spent his summer vacation that year trying to help Superintendent Mead and other loyal employes to keep things running. However, that September they lost their fight.

" 'Physical properties' of the road were sold to a scrap dealer," he reports, "and the last train ran September 8th. Tearing up the 16 miles of main-line track was begun in October; but by this time I had returned to my home in Cleveland, landing a job in the Nickel Plate shops.

"The B&H had two engines then, Numbers 7 and 8, both Baldwins, and four coaches, a baggage car, and 30 assorted freight cars. Mead bought some of the cars himself, while a cranberry dealer, Ellis Atwood of South Carver, Mass., purchased the machine shop, track, switches, and turntable at Bridgton Junction, as well as the rest of the rolling stock, leaving only Number 8 engine.

"I pooled all my available resources with those of a friend and bought the 8-spot a week before she was to go to the cutting torch, and thus saved her. In September '42, before going into the army, we made a trip to see this engine. Stripped of many of her liftable parts, she was standing outside the coal shed in the yards."

* * *

ENGINE PICTURE KID'S return to the pages of *Railroad Magazine* (Nov. and Dec. '44) has been hailed with joy in letters from many readers. The following comment of William F. Knapke, retired boomer conductor, 118 S. Main St., East St. Louis, Illinois, is typical of the mail we are getting on this subject:

"I followed the adventures of the *Kid* and *Goldenrod* from the time they first appeared, in the summer of 1932. I was glad to see them working together happily on the 3½-mile Happy Valley Line in Saskatchewan, with the camera fiend firing a locomotive for his auburn-haired girl. Personally, I felt as though I had lost a couple of friends when the young folks married and set up housekeeping on the right-of-way, and the stories ceased for years. Now that the *Kid* and *Golden-*

rod have been brought back to life, I hope we will read more about them in the future. The author gets my vote."

* * *

STANDARDIZATION of American locomotives doesn't evoke rousing cheers from Pvt. Jim Davies, 30 Ashton Place, Glen Rock, N. J. Stationed with the Signal Corps in Italy, Jim sends a dismal picture of what this has done to railroading there. Locomotives are limited to about eight general types, each having no variations, even in outer details. Uniform on both state and private narrow-gage lines is the whistle, a high piercing blast.

"First time I heard such a whistle," he adds, "it nearly scared the liver out of me. Thank the Lord, we have few single-note whistles in America. While I've no doubt that limiting engines to a few types would be a move toward greater efficiency, it would check the individuality of roads, and thus railroading would lose much of its appeal for me."

* * *

BACK in 1933, when speed was not so vital, an engineer could really enjoy the local scenery. Kenneth Stevens, S 1/c, U.S.S. *Knoxville*, PF-64, c/o Fleet Post Office, New York City, recalls how a Canadian Pacific switch engine was stopped to let the crew witness a battle of fists on the tracks.

"The branch line connecting Owen Sound and Toronto, Ont., ran through the outskirts of Brampton, within a few yards of my grandfather's house," Ken informs us. "One afternoon I was engaged in a hot argument with a friend that wound up in a slugging duel. We heard the whistling of the local switch engine coming rocking down the uneven track, but as we were stepping over the rails we didn't bother to look up. Sailing into one another, the pounding and kicking went on until we were rudely pulled apart. Our families had been called to the rescue by the fireman.

"Looking down the tracks, I saw the goat again on her way, the hogger leaning out his window, while his companion watched from the gangway. It was the first time I had heard of an engine stopping to watch twelve-year-olds box."

* * *

WASHOUT of Four-Mile Creek bridge on the Chicago, Rock Island & Pacific between Altoona and Des Moines, Iowa, in 1877 caused train Number 1 to be derailed, killing 18 persons and injuring 20. Details of this disaster are supplied by Harry W. Chambers, a former Rock Island railroader now living at 309 S. Heliotrope Ave., Monrovia, Calif. Harry says he got them from old-timers and from an Iowa Railroad Commission report.

"The accident occurred at 3 a.m. of August 29th," he writes, "on a grade descending to the Des Moines valley. The track had recently been relaid with steel rails, the roadbed ballasted and the trestles replaced with masonry, generally

Photo by Donald S. Bradley, now in U. S. Army

FOUR-UNIT Diesel No. 103 pulling 128 cars of freight on the Burlington near Keenesburg, Colo.

arched culverts. A storm carried away one of these culverts; and Number 1, a fast night passenger running between Chicago and Omaha, plunged into the swollen stream, Engineer William Rakestraw being killed and Fireman Trucks suffering injuries.

"Directly behind the engine that night rode a circus advertising car. Every passenger in it met death; the car itself was demolished. The pilot of the engine came to rest on the west abutment of the bridge, while the remainder hung downward into the creek. Several cars were broken up and scattered over the engine. Many years later, section hands found a roll of circus posters from the advertising car, embedded in the mud but well-preserved. Today a Class A bridge spans the stream, and engineers use this section of track as a sort of speedway to assist in keeping their trains on time into Des Moines."

* * *

NOW we come to the song and dance about the Reader's Choice coupon *(page 146)*. The purpose of this is to guide the editorial crew in selecting material for future issues. Some rails and fans use the coupon. Others prefer not to clip the magazine; they send us homemade coupons or express their choice in letters and postcards. Regardless of how votes are sent in, all count the same. Results of balloting on our December issue show the following titles listed in order of popularity:

1. True Tales of the Rails.
2. Death Valley, *Kohl.*
3. South Pacific Coast, *Jones.*
4. Light of the Lantern.
5. Electric Lines.
6. On the Spot.
7. Track Machines, *McGuire.*
8. The Hard Way, *Rohde.*
9. Secret Weapon, *Engine Picture Kid.*
10. Locomotive of the Month.
11. Railroad Camera Club.
12. Along the Iron Pike, *Easley.*

THREE photos, those on pages 44, 112 and 118, were tied for first place in the December popularity list, followed by the pictures on 70 and 88.

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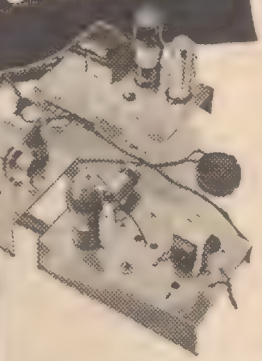

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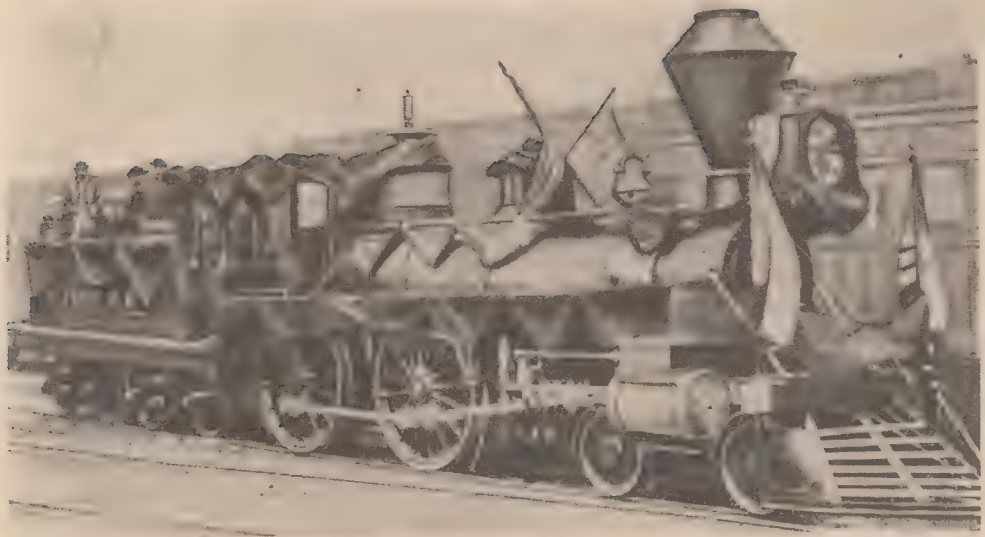

PRR 331, one of the engines on Lincoln's funeral train

The Lonesome Train

ON APRIL 21st, 1865, a week after President Lincoln's assassination, his body was placed aboard a special train at the Baltimore & Ohio station, Washington, D. C. This train consisted of a new engine and nine new cars, including the funeral coach and the one occupied by the guard of honor; all were draped in mourning.

The cortege proceeded to Springfield, Ill., via Philadelphia, New York City, Albany, Buffalo, Cleveland, Indianapolis and Chicago, arriving at its destination May third after a journey of 1,700 miles. Along the entire route stations were draped in black, bells tolled, minute guns were fired, and countless multitudes mourned, thousands kneeling beside the tracks at night while torches and great bonfires blazed. It was the last tribute to a great statesman.

The spirit of this remarkable trip is caught in a series of three 12-inch double-faced phonograph records, entitled *The Lonesome Train, a Musical Legend,* just issued by Decca in an album, the entire set selling at $3.50. On these records are words by Millard Lampell, Earl Robinson as narrator and Richard Huey as preacher, with music rendered by Lyn Murray and his orchestra, the Jeffry Alexander chorus and Burl Ives, ballad singer, plus a supporting cast. The entire production was directed by Norman Corwin, than whom we know of no brighter star in the radio firmament.

Statement of the ownership, management, circulation, etc., required by the Acts of Congress of August 24, 1912, and March 3, 1933, of Railroad Magazine, published monthly at Chicago, Illinois, for October 1, 1944. State of New York, County of New York, ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared Harold S. Goldsmith, who having been duly sworn according to law, deposes and says that he is the Business Manager of Railroad Magazine, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit: 1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Popular Publications, Inc., 205 East 42nd Street, New York 17, N. Y. Editor, Henry E. Comstock, 205 East 42nd Street, New York 17, N. Y. Managing Editor, none. Business Manager, Harold S. Goldsmith, 205 East 42nd Street, New York 17, N. Y. 2. That the owner is: Popular Publications, Inc., 205 East 42nd Street, New York 17, N. Y., Henry Steeger, 205 East 42nd Street, New York 17, N. Y., Harold S. Goldsmith, 205 East 42nd Street, New York 17, N. Y. 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: none. 4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner, and this affiant has no reason to believe that any other person, association, or corporation has any interest, direct or indirect, in the said stock, bonds, or other securities than as so stated by him. Harold S. Goldsmith, Business Manager. Sworn to and subscribed before me this 26th day of October, 1944. Eva M. Walker, Notary Public, New York County Clerk's No. 15, Register's No. 363 W 6. (My commission expires March 30, 1946.) [Seal]—Form 3526—Ed. 1933.

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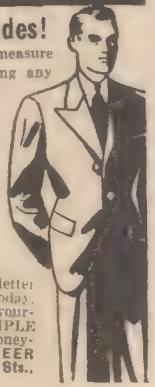

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OLD suburban engine saw service on both coasts (NYH&H and Holton Interurban) before becoming Southern Pacific No. 4

Frosted Steel

NOT long ago your poet wrote
Of shimmering heat and creosote,
Expanding rails, perspiring crews and air-conditioned diners,
But now he sits behind the bay,
His old pot-bellied roars away,
While tightening wires rehearse a lay in weird harmonic minors.

I like the melodies sublime
Of railroads in the wintertime,
The deep exhaust, the whistle's shriek, the joints' recoil emphatic.
I like the icy winds that roar
Around my shack and semaphore,
The frosted panes, the rattling door and undertones erratic.

Of course, your poet knows it's hard
On busy switchmen in the yard,
And brakemen making pick-ups from a siding unprotected,
But I can't help the way I feel
About the tang of frosted steel,
'Cause I am warm from head to heel (or had you boys suspected?)

—Charles D. Dulin.

Model Trading Post

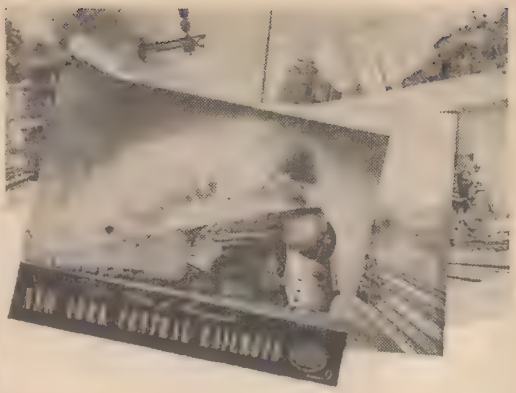
LISTINGS in this department are free for amateur hobbyists. They are published in good faith but without guarantee. Write plainly and keep 'em short. Use a separate sheet or card containing your name and address. Give your first name, not merely the initial.

Because of time needed to edit, print and distribute this magazine, material must be sent to the Editor at least seven weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by the latest Reader's Choice coupon (clipped from page 146 or homemade). Address *Railroad Magazine*, 205 E. 42nd Street, New York City 17.

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

ED ALEXANDER, Bourbon St., Blanchester, Ohio, will trade AF 3/16 eqpmt., Lionel loco 763-E, parts or whole; will exchange list. Wants AF motor, high drivers with reverse unit; state price and cond.

DONALD BAILEY, 4225 Carpenter Ave., N. Y. City 66, will sell HO eqpmt. Varney *Little Joe* switcher DC, Gilbert Hudson AC, 8 frt. cars 40x60 inches, 2-rail double-track layout, all in working order, $45.



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CLARENCE L. BATIMA, 91 E. 23rd St., Holland, Mich., offers 792 streamlined coach with scale coupler; from 793 streaml. coaches, sc. coup; 794 streaml. coach, sc. coup.; 754 streaml. coach, sc. coup.; 752 st. power car; all Lionel; trade for loco 226 or 763, solid rail or switches.

Lt. L. W. BEAL, Naval Ordnance Plant, Louisville, Ky., wants Mantua auto. couplers, HO steel or brass rail.

BRUCE C. BOWDEN, 17 Sterling Rd., Waltham, Mass., wants HO eqpmt. and brass rail, good cond.

E. N. FISHER, 324 Crawford Ave., Effingham, Ill., will trade AF Hudson, HO, unused, with 30 ft. brass rail for AF 3/16 scale outfit.

K. FRAZIER, c/o Ralph Joyce, Beecher Falls, Vt., will buy O or O27 gage switcher, tr. outfits complete, or locos and cars separate, all with auto couplers, r.c. switches and eqpmnt., good cond.; also O gage Lionel streamliner.

FRED HEIDECKE, 1434 S. Scoville Ave., Berwyn, Ill., wants 4 wheels for std.-gage AF elec., loco 4637 dia.; of tires 2-inch, dia.; flanges 2⅜ inches (slightly larger ok); also std.-gage Lionel 8 loco, cond. of body immaterial; pr. ¼ in. scale pt. car trucks, 1¼ in. scale track.

H. W. JENSEN, 5731 S. Colfax, Minneapolis 9, Minn., will sell Lionel and AF motors and chasis, 6 wheel pass. trucks, locos, tenders. List for stamp.

T. KAZMAREK, Jr., 1335 23rd Av., N., Clinton, Iowa, will pay $55 for Lionel O gage Hudson loco, good cond.; also will pay 2/3 list price for Lionel Pacific loco with oil-burner tender, good cond.

DON KEVENEY, 1501 Metropolitan Ave., Bronx 62, N. Y. City, offers Lionel Std.-gage cars 512, 217, 511, 520, 312, 310, 309, derrick 219, loco 318E, bridge, 15 secs. track; all but 520 in good cond.; $35 postpaid for lot.

J. S. KUSTER, 3 E. Stevens, Newark, O., wants Ives 1764, 3245, locos, Boucher Blue Comet cars, Lionel roundhouse sections.

JOHN LYKO, 4818 W. 23rd St., Cicero 50, Ill., builds ¼-inch cars to scale on order; send stamp for list. Wants interurban car kits, parts, etc., and '39 or earlier *Model Builder Magazines.* Send lists, prices.

R. W. McKEE, 615 Oakton St., Evanston, Ill., will buy O gage Lionel or AF loco. State price, cond., type.

ROBT. B. MIDER, 4914 Eastern Ave., Cincinnati, O., offers HO AF loco and tender, track, 4 pass. cars, 7 frts., good cond. Cash sale or trade for OO gage.

DOUGLAS H. MOTT, Todd Rd., Waterbury 63, Conn., will buy for Lionel 262E steam type engine, any cond. if chassis or frame is good.

W. T. NAU, Box 4343, Duke Station, Durham, N. C., will sell complete Maerklin outfit, Swiss type elec. engine, cars, signal tower, gates, etc.; good cond.; send stamped env. for details.

BOB RENNER, Box 177, Almont, Mich., wants HO interurban cars, track, or wayside structures.

G. SAUDER, Lexington, Ohio, will trade or sell elec. paint spray outfit; cost $39.50, sell for $25 or trade.

FRED SCHEIBLE, 1214 N. Howe St., Chicago 10, Ill., wants AF 3/16 O-8-O switcher and AF die-cast comb. car; also MU track, O gage, with motor.

DAVE SHORT, 206 Lake St., Hamburg, N. Y., will buy AFK-5, good running cond.

WALTER E. SOULE, 7 Court End Ave., Middleboro, Mass., will sell Marx 3/16 scale 2-4-2 loco and tender $5; caboose, $1.50; tracks, 5¢ ea.; also 3 pr. HO scale bronze trucks, 2 rail, 75¢ pr. Send stamp for complete list.

GERALD H. STAMBAUGH, 976 Lyons Ave., Ely, Nevada, will buy O gage trolley eqpmt., also large size erector sets.

RAYMOND STECKEL, 91 Wheeling Ave., Staten Island 12, N. Y., will sell Lionel and Ives std.-gage locos and car bodies; also some complete cars; unassembled HO loco and car kits. Send stamped env. for details.

PETER R. WARD, 333 So. Jefferson, Saginaw, Mich., will buy 6 pieces Lionel std. straight track.

AUGUSTUS WILDMAN, 211 Ninth St., New Cumberland, Pa., wants Mantua *Belle of Eighties,* Mogul, Goat, or Varney Dockside; HO tie-strip, switch ties, switches; will pay cash or trade eqpmt., *Official Guides,* tts.

LEELIS R. WILSON, 4950 Case Ave., Cleveland O., will sell two 2226-E Lionel locos and tenders, 14H 2613 pass. cars, frt. eqpmt., etc. Send stamped env. for list.

HENRY T. WILTBANK, 3009 N. Percy St., Philadelphia 33, Pa., wants Ives, AF, Dorfan or Lionel std.-gage frts. with matching locos, espec. Ives 1134, Lionel 402E or 408E. Has Dietzgen *Maniphase* slide rule in case and complete drawing outfit to trade, or pay cash.

Railroad Camera Club

JOSEPH L. SCAUMELL, a B&M locomotive fireman, is interested in steam professionally, but when it comes to hobbies his heart is with the Manchester Street Railway. He has amassed a large collection of photos of that trolley line, 130 in all. This lot includes the company's rolling stock as well as a few old-timers. Among them are all open cars, plows, sweepers, work equipment, *The City of Manchester* and closed cars, excepting numbers 4, 6, 8 and 12 in the rapid transit group. Joe has been assembling these pictures for his own pleasure, but he tells us that he will sell a complete set of 130 to anyone for $15. His address is 73 Clinton St., Manchester, N. H.

* * *

ITEMS sent to this department are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Use a separate sheet or card containing your name and address. Give your first name, not merely the initial.

Because of time needed to edit, print and distribute this magazine, material must be sent to the Editor at least seven weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by the latest Reader's Choice coupon (clipped from page 146 or home-made). Address *Railroad Magazine*, 205 E. 42nd St., New York City 17.

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Use the customary abbreviations and photo sizes. The terms *tts.* refers to public timetables—unless preceded by *emp.*, when it means employes (operating) timetables.

(R) indicates desire to buy, sell or swap back issues of *Railroad Magazine* or its predecessors, *Railroad Man's* or *Railroad Stories*. (Specify condition of each copy.).

(*) indicates juicefan appeal.

The Switch List

DALE AGGERS, 114 Stewart St., Freeport, Pa., wants engine pix of NP, SP, NYC, RF&P, Southern. Send list, sample, prices.

GEO. ALLEN, c/o Arthur Kudner, 630 Fifth Av., N. Y. City, wants pix and info on old Brigantine Beach RR. in New Jersey; also brass hanging lamp from old-time rr. coach, oil or Pintsch burners. Will pay very good cash prices, or trade.

(*)J. WM. BARNES, Box 263, Southbridge, Mass.,

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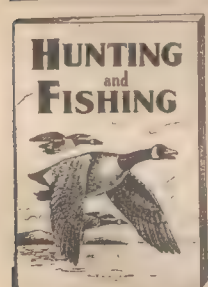

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DOUG BATES, 7043 20th N. E., Seattle 5, Wash., will trade NP-GN "19" orders for NYC orders or any of same roads; good cond.

(*)DAVE BEATTIE, 3824a Lincoln Av., St. Louis 13, Mo., will sell or trade transfers and weekly passes from St. Louis and Peoria, Ill.; various size pix of St. Louis eqpmt.; wants pix of old Ohio interurbans.

(R)GUS BIEBERT, 61-05 Catalpa Ave., Ridgewood 27, N. Y., wants old copies of *Railroad Magazine*, good cond. *(Editor asks: How old, Gus?)*.

(*)J. O. BREW, 11 Divinity Ave., Cambridge, Mass., wants New Eng. trolley postcards and pix of old eqpmt., any size; no Birneys or later; also car barns, any date.

NICHOLAS P. BROWN, 1815 N. Charles St., Baltimore 1, Md., will pay good price for engine bell. Write details.

KEN BRUCE, 786 S. 9th St., San Jose 12, Calif., wants pix UP streamliners; also SP, UP, CNW emp. tts.

(*)TED BURKETT, Sr., 365 S. Detroit Ave., Toledo 9, Ohio, wants elec. ry. tts., any size negs. of Ohio interurbans; trades current OPS pix for same; needs O gage MU power truck.

(R)STUART R. CECIL, Jr., 2002 Tampa St., Tampa 3, Fla., wants *Railroad Stories*, Dec. '33, good cond.

LARRY COBLEIGH, 428½ N. Kenmore Ave., Los Angeles, Calif., wants emp. tts. Los Angeles Div., UP, SP, AT&SF.

(*)PETER CUMP, 3236 Pacific, San Francisco, Calif., will trade *Pocket List of R.R. Officials*, 2nd Quarter 1942, and Sacramento Northern Ry. pix for pix of Ill. Trac. and Lake Shore Elec.

(R)JOHN DAMEREL, 50 N. Long St., Williamsville 21, N. Y., wants *Railroad Magazine*, Jan.-June '44; also tts. from all road in U. S. and Canada.

L. DESROSIERS, 5627 Canterbury Ave., Montreal 26, Canada, will buy emp. tts. of the CNR, CPR, and T&NO.

KEN DETAMORE, Box 407, Converse, Ind., sells size 116 pix PRR 61sO Q-1, 6131 Q-2. Will buy size 116 negs., any road.

(R)W. P. EGGLESTON, 705 Security Bldg., Springfield, Ill., will sell *Railroad Magazines*, Jan. '35 through Sept. '44, 25¢ ea. plus postage; *Official Guides*, Oct. '40 to June '42, 50¢ ea.; all good cond.

LARRY EVANS, 29 Hunter St., Tamaqua, Pa., will buy any size loco pix of Rdg., PRR, B&O, Santa Fe and Sou. Answers all mail; sends Rdg. tr. orders free on request till supply ends, if stamped env. is enclosed.

MARK EWALD, Box 42, Springfield, S. D., wants colored prints of early U. S. trains up to 1910; colored booklets, illus. books, any good pictures.

CHAS. S. FREID, 3505 Sunnyside Ave., Philadelphia 29, Pa., trades Phila. Div. Reading emp. tts. for size 116 engine pix, any road.

ALBERT M. GAZAY, Jr., 1914 (B) Pine St., Seattle 1, Wash., offers one pass. ticket Bakersfield, Calif. to Ft. Worth, Tex., on SP, stamped May 7th, 1904, giving car name; good cond., $10.

(*)DAVID GIBBS, 1441 24th St., West Vancouver, B. C., Canada, will swap size 120 BCElec pix for pix of Eastern U. S. and Canadian trolley lines.

(*) H. C. GOLK, CHMA, Lebanon, Tenn., will trade maps of CSL, CRT, CNS&M, CA&E, Milwaukee Elec. Ry., PTC, PST and CSS&SB tts. for other interurbans and st. rys. maps.

(R)S. P. GUTHRIE, Cold Spring, Ky., wants *Railroad Magazine*, Jan., May '36; *Trains*, Feb. 41; *R&LHS Bull.* '36; pix of Due West Ry., Appalachian Ry., Cliffside, and Bonlee & Western, etc.

(*)CHAS. H. HAMANN, 4663 Maffitt Av., St. Louis 13, Mo., wants pix of Birney safety cars, single or double-truckers, all U. S. cities; pay cash or trade pix of St. Louis eqpmt.

(R)CARL HAYS, 212 Sonoita Ave., Nogales, Ariz., wants *Railroad Magazine* for Dec. '29; all '30 exc. Jan., Feb., Apr., Sept.; all '31; June, July, '32; Jan., Apr., June, July, Oct. '33; Jan., Feb., Mar. '36; good cond.

(R)J. W. HELFRICH, 135 Hillside Ave., Piedmont 11, Calif., will trade *Railroad Magazine*, good cond., covers, unclipped: Jan., Mar., May, Aug., Oct., Dec. '42; Mar.-June '41; July, Sept., '40; April, May, Dec. '38. Wants June, July, Nov. '42; Sept. '41; Mar., Apr., Nov. '40; Feb., Mar., May, June, July, Oct. '39; Sept., Oct. '38; good cond.

ROBT. HOLST, 7314 Ridge Ave., Chicago 45, Ill., wants clean and uncut *Model Craftsman* from Jan. '42 to Sept. '44.

(*)BILL HOOD, 301 Woodmount Ave., Toronto Canada, wants size 116 of Chicago Surface Lines, Phila. Trans. Co., St. Louis Pub. Serv. and Cap. Transit; also any U. S. short steam lines.

(*)ROBT. W. JENNINGS, 108 Grove St., Putnam, Conn., will buy size 116 pix of elec. engines, juice jacks, frt. motors; also early issues of *Trains*.

CLYDE JOHNSON, 258 E. First St., Room 528, Los Angeles, Calif., wants latest loco rosters, and sizes 116 and 122 pix of Mo. & Ark., Columbus & Greenville, KO&G, C&IM, Wichita Falls & Southern, Tenn. Ala. & Ga., other routes less than 350 miles long.

(*)E. D. JONES, 427 Osborne Ave., Verdun, Montreal 19, Canada, offers size 116 pix of CNR and Dominion Atlantic locos, also streetcar pix from Cornwall, Halifax, Montreal, Levis, Ottawa and Toronto, Canada; size 120 pix of Dayton, O., street cars. List and sample, 10¢.

RAY E. KELLER, 86 East Second St., Clifton, N. J., wants good loco pix of CPR, CNR; also likes to correspond with fans.

(*)KEN KIDDER, 1948 Pacific Ave., San Francisco 9, Calif., will trade juice negs., size 616 only.

(R)CLIFFORD G. KING, 5369 Charles St., Philadelphia 24, Pa., will swap copies of *Railroad Magazine* Jan. '33 to date, few missing, for copies of *Model Railroader*.

STANLEY KISTLER, Jr., 2326 Grand Ave., San Diego 9, Calif., wants pix and info. on Santa Fe; also size 620 pix of U. S. Diesel switchers, freighters, streamline pass. locos, General Motors, Electro-motive or Fairbanks Morse, but no Alco.

JOHN R. LEE, Box 115, Comber, Ont., Canada, wants pix of old and new motive power in U. S., or Canada; will sell or trade pix of New York Central power. Free list.

(*)C. EDWIN LEWIS, 301 Paddington Rd., Baltimore 12, Md., will sell old steam and elec. ep. and pub. tts., misc. rr. publications. Send stamped envel. for list.

N. LOCICERO, 1137 S. Humphrey Ave., Oak Park, Ill., will sell tr. orders, passes, HO eqpmt. Wants rulebooks, emp. tts.

RICHARD LOCKHART, 4531 W. 11th Place, Los Angeles 6, Calif., desires emp. tts. of small roads now operating, also of SP, UP, AT&SF (esp. L.A. Div.). Write first.

CHAS. MacHARDY, 307 Andrews Ave., Glenolden, Pa., will buy new and old Pennsy calendars, also 1945 calendars of other roads.

L. MERRILL, Jr., 102 W. 75th St., N. Y. City 23, wants desk model paperweight of NYC streamlined Hudson; state price.

I. W. MILLER, 107 O'Neill Court., Havre de Grace, Md., will buy 35 mm. railroad movies. Write details.

(*)JOHN MITCHELL, 4297 Lakeshore Ave., Oakland 10, Calif., swaps transfers, tkts., route maps, tts.; also sells transfers.

(R*)TOM MOHR, 5327 N. Moody Ave., Chicago 30, Ill., will buy pix of Pennsy 4-6-2 5038, 4-8-2's, 4-4-2's, NYC streamline Pac.; Chicago surface lines; wants *Railroad Magazine*, Jan. and Oct. '42.

RAY MOHR, 5237 N. Moody Ave., Chicago, Ill., will sell 20 pix of steam and Diesel engines, $1.

(R*)JOHN MONAHAN, Albany, N. Y., wants tts. and trolley transfers; will trade copies of *Railroad Magazine*.

ROY MORTON, 111 N. E. 8th St., Oklahoma City, Okla., wants one emp. tt. for 1898, 1904 and 1910 (or near these) for C&S narrow-gage.

(R)GEO. D. MURRAY, 189 School St., Manchester, Conn., offers 57 issues of *Railroad Magazine*, good cond., Mar. '39 thru Dec. '44; also, *Locomotive Valve Settings* by Britton; *New York Air Brake*, 1911 Brotherhood edition, for sale or trade for *Loco Cyclo*, 1930 or older.

D. H. NOBLE, S 1/c RT, Btn 1, Plat. 2, NTS (EE9-R-17), U.S.N.T.C., Gulfport, Miss., will buy 5x7 or 8x10 pix of CNJ locos. Wants to correspond with readers in his district.

O. G. PECTAL, Northfield, Conn., desires Housatonic RR. pix, tts., tickets, passes, reports, other items. Send list.

DAVID W. PEPPER, 1911 5th Ave. N., Birmingham, Ala., will buy loco pix of Sou., NC&StL, Seaboard and CofG.

(R*)HAROLD L. PHILLIPS, Box 241, Millis, Mass., will sell *Railroad Magazine*, Nov. '44, 25¢; *Along the Union Pacific*, 5¢; emp. tt. of NC&StL, Chat. Div., 5¢; Phila. Trans Map. 5¢; *Trolley Roads in Lebanon & Lancester Counties*, 50¢; *History of Lebanon Valley Rd.*, $1. Stamps accepted.

J. W. RAVELLI, Elmcourt, Logan Rd., Youngstown 4, Ohio, wants negs. of Erie, NYC, B&LE, Pennsy; will trade for NYC emp. tts. of Erie Div., or pay 10¢ ea., good cond., size 120 or over. All scenes in Ohio if possible; any rolling stock.

JOHN REHOR, 20931 Morewood Parkway, Rocky River 16, Ohio, offers 30 p.c. pix of NYC and NKP

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(R)J. R. REID, 358 Woods Ave., S. W., Roanoke 16, Va., offers size 116 pix of Vagn., N&W; C&O, Sou. and others, 30 for $1 postpaid. List and sample, 10¢. Wants *Railroad Man's Magazine*, Dec. '29 to Dec. '31.

FRED ROGERS, 236 North St., Foxboro, Mass., seeks W&Atl. info., pix, tts., engine roster; write first stating details.

(*)Pvt. CHAS. F. ROSELIUS, 162-20 89th Ave., Jamaica, N. Y., collects elec. ry. tts., tokens; also N. Y. State steam rr. tts.

JACK RYAN, 5055 N. Wolcott Ave., Chicago 40, Ill., will trade tts. and CMStP&P emp. magazines for those of other roads; wants most issues of *Trains* before May '43, also size 116 pix of larger roads.

(*)ED SALETTEL, 951 Balland St., Grand Rapids 7, Mich., will sell size 116 elec. pix of Cleveland Ry., and size 616 of Chicago Sur. St. at 10¢ ea.; also large glossy prints of Cleveland interurbans, 50¢ ea.

(R)JOE L. SCHAUMELL, 73 Clinton St., Manchester, N. H., will sell 73 copies of *Railroad Magazine* in one lot for cash, dated July,, Nov., Dec. '35; Jan., Feb., Apr., May, July, Aug., Sept., Nov. Dec. '36; Jan., Feb. June, Dec. '37; '38, complete; '39, complete; '40, all but Sept.; Jan., May, June, July, Sept., ct., Nov. '41; July Nov., Dec. '42; Jan., Feb., Apr., May, July, Sept., Oct., Nov., Dec. '43; Apr., June, Nov. '44.

(*)Pfc. JOHN H. SCHMIDT, Det. MD, Ft. Slocum, N. Y., will bly pix of Indiana interurbans, city cars; several pix of Ga. Power Atlanta cars; also B&O Chi. Div. pass. trains and locos. Send list.

(R)M. K. SEATON, Box 396, Wellington, Kan., will sell following *Railroad Magazines:* May '33; June '37; all '34 exc. July; '39 thru '44 complete; all good cond., exc. cover missing from May '34. State offer.

(R)JOE SENDERAK, 2619 Cortez St., Chicago, Ill., will sell *Railroad Magazines* '34 thru '43; all good cond.

K. M. SMITH, 337 McDougal St., Fostoria, O., wants forms, pix, keys, timecards, etc., from roads absorbed by C&O; state your needs.

HOWARD B. SPENCER, Glen-Fay, 3 Orton Ave., Walmley Sutton Coldfield, England, wants to trade British Ry. postcards for colored U. S. railroad postcards.

(R) MYRON ST. LEON, 648 N. Kingsley Dr., Los Angeles 4, Calif., will trade some *Railroad Magazines* for pix of wrecks on Eastern lines. Send for list.

HARRY SUPRINICK, 145 Moore St., Brooklyn 6, N. Y., wants to hear from other Brooklynites. *(Editor's note: Harry, you forgot to say what you were interested in or why you wanted readers to write.)*

TOM TABER, 43 Hillcrest Rd., Madison, N. J., wants pix of Morristown & Erie engines, cars, buildings; also data on engines and cars. Write first.

(*)GORDON J. THOMPSON, 158 Union St., Ridgewood, N.J., offers, for 3c, photo list of Erie, NYS&W, NY&LB; also PSL, NJRT, AC&S, other juice lines. Will buy N.J. juice negs.

(*)GEO. P. TOUSEY, 217 Hawthorne St., Brooklyn 25, N. Y., will buy trolley pix, system maps, and buy or trade tokens; also recent *Official Guide*. Write first.

TOM UNDERWOOD, Jr., 1530 Rhode Island Ave., N. E., Apt. 505, Washington 18, D. C., will sell Sept., Nov., Dec. '43 *Trains* or trade for anything on B&O, esp. pix of *National Limited*.

(*)Cpl. VICTOR G. WAGNER, 207 AAF Base Unit (TT), Biggs Field, Texas, wants any size pix of Indiana RR, Interstate Pub. Serv., Cincinnati & Lake Erie; will pay cash or trade size 616 pix of El Paso Elec. and others.

(*)GLENN WIGREN, 260 Willard St., Jamestown, N. Y., will sell pix of old open Jamestown car, 10¢ ea.; pix of Jamestown & Warren (Pa) Line, Chautauqua Traction, double-deck streetcar, 15¢ ea.; other pix, bus tokens, transfers.

(R)T. E. WILLIAMS, Willapa, Wash., wants *Railroad Magazine* for May, June '39; will sell Apr. '41 thru Dec. '44; good cond.

WM. L. WISNER, Jr., 44 Patchen Ave., Brooklyn 21, N. Y., will pay cash for pix and color reproductions of modern locos, frt. and pass. cars, complete trains; also books and pamphlets showing types of locos and eqpmt. now used.

JAY WULFSON, 50 Colfax St., South River, N. J., sells Raritan River RR. pix, 10¢ ea., 12 for $1; also tr. orders, other material. Will trade one Raritan pic for one of another road. Send for list.

(*)H. YOUNGER, R. D. 1, Harbor Creek, Pa., will sell 2 views of car 304 of JW&NW head-on wreck last Sept. 2, 10¢ ea., size 116. Wants pix or info. on abandoned Conneaut & Erie Tract. Co. and Erie, Pa., streetcar Lines. Write details.

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